THE

JOURNAL

OF

THE LINNEAN SOCIETY.

BOTANY.

VOL. XII.

MISSOURI
BOTANICAL
GARDEN

LONDON:
SOLD AT THE SOCIETY'S APARTMENTS, BURLINGTON HOUSE;
AND BY
LONGMANS, GREEN, READER, AND DYER,
AND
WILLIAMS AND NORGATE.
1869.

SHOUT
SHARE
IT

PRINTED BY TAYLOR AND FRANCIS,
RED LION COURT, FLEET STREET.

MUSCI AUSTRO-AMERICANI.

ENUMERATIO MUSCORUM OMNIUM
AUSTRO-AMERICANORUM
AUCTORI HUCUSQUE COGNITORUM.

SCRIPSIT
GULIELMUS MITTEN.

THE JOURNAL

OF

THE LINNEAN SOCIETY.

MUSCI AUSTRO-AMERICANI, sive Enumeratio Muscorum omnium Austro-Americanorum mihi hucusque cognitorum, eorum præcipue in terris Amazonicis Andinisque RICARDO SPRUCEO lectorum. Scripsit GUL. MITTEN.

[Read June 18, 1868.]

WHILST investigating the very extensive collections made by Mr. Spruce during his travels up the Amazon and some of its tributaries, and afterwards across the Andes, it was at first proposed to add, to the list of the species he had collected himself, a catalogue of all other known South-American Mosses. He afterwards, however, suggested that, as a great many little-known species preserved in the Hookerian Herbarium at Kew, and the entire collections made by Mr. Weir in New Granada, as well as in South Brazil, and also those made by Burchell during his travels in Tropical Brazil and down the Tocantins, had been examined by me, it would be more advantageous to add descriptions of the whole of these species, and thus render the enumeration more complete and comprehensive. All the species, therefore, seen by me have been described, so far as my specimens would show, from actual observation. In those instances in which my specimens have been defective, I have extracted such portions as were necessary to render the descriptions complete from such authors as have had opportunities of observing them in a more perfect state; in some instances I have transferred the entire description, when the species was either unknown to me or I had doubts of the correct determination of such specimens as were in my possession. In all such cases I have, when possible, taken the descriptions from the 'Synopsis Muscorum Frondosum,' of Dr. Carl Müller, chiefly because his characters, when he had himself seen the species, are good, and also because he has examined many of the species which are not found in any British herbarium that I have examined, and he has written them all upon one uniform plan.

I have adhered as nearly as possible, in the nomenclature, to the use of names which have the right of priority, so far as I have been able to ascertain it.

A very large proportion of the plants collected by Mr. Spruce were gathered towards the frontiers of various countries (Brazil, Venezuela, New Granada, Ecuador, and Peru); and as the actual position of these frontiers is still in many cases a subject of dispute, he judged it best to ignore all political divisions, and to group all the localities under the great natural regions marked out by the rivers and mountains, in the following manner—

1. Flumen Amazonum,
2. Fluvium Negro,
3. Flumen Orinoco,
4. Andes Quitenses sive Æquatoriales,
5. Andes Peruvianæ;

and the subjoined brief account of them will suffice to render it easy to find any of the specified localities on an ordinary map.

1. The river Amazons, from its mouth to the roots of the Andes, with its tributaries the Tapajoz, the Trombetas (with its affluent the Aripecurú), the Huallaga, the Pastasa.

2. The Rio Negro, from its confluence with the Amazons to its sources in Venezuela, including several of its affluents, among which are the Casequiari, branching from the Orinoco. The whole basin of the Rio Negro belongs, of course, to the Amazons valley, and the lower part of it, up to near the mouth of the Rio Blanco, or to where the granite begins, ought properly to be included in the Amazons district; very few mosses, however, were gathered in that part, and nothing of special interest.

3. The river Orinoco, from the cataracts of Maypures upwards, including its tributary the Atabapo.

4. The Quitenian Andes, extending from Pasto on the north to the river Marañon (or Amazons) on the south. The great forest of Canelos is included in this district. It lies just south

of the Equator; and beginning to the westward on the slopes of Tunguragua and Llanganati, it subsides gradually into the great plain; it is traversed by the river Pastasa, and the Bombonasa rises in it.

5. The Peruvian Andes, extending from the Marañon on the north to about Lake Titicaca on the south. Plants were gathered only in the valley of the Huallaga, up to 5000 or 6000 feet altitude, among the easternmost undulations of the Cordillera, in what has been elsewhere called the Maynensian Andes, because included in the ancient province of Maynas. The river Huallaga itself belongs to this division from the first cataracts upwards; but from the cataracts and the Pongo (narrows) of Chasuta downwards, it belongs to the Amazonian plain. The altitudes are given in English feet (whereof 1000=305 metres). Those localities to which no altitudes are affixed are all in the Great Plain, whether on the Amazons, Rio Negro, or Orinoco, and none of these are probably higher than 1000 feet above the sea-level.

The enumeration comprises all the Mosses which have been found in the continent of South America, including all those portions of Central America which are south of the Tropic of Cancer, the West-Indian Islands, the Falkland Islands, and the Island of Juan Fernandez, as well as all the islands contiguous to the mainland.

Surveying the whole Moss-flora of these vast regions, the richness of some genera in species, the poorness of others, in comparison with other corresponding regions of the earth, becomes immediately evident. About half the known species of *Campylopus* are found in South America; *Leptodontium* and *Holomitrium* are equally rich, but no species of the last-named genus has been received from the western side of the Andes. Tortuloid Mosses are very numerous, but all those approaching European forms (*Barbula* and *Syntrichia*) appear to be confined to the Andes or to their western side.

Orthotrichoid Mosses of the genera *Orthotrichum* and *Zygodon* are very numerous; but these genera appear to be restricted to the Andes and their western side, as in the case of the Tortuleæ. *Macromitrium*, however, the richest genus in the number of its species, abounds most in the West-Indian Islands and the more equatorial regions of the eastern side of the Andes; and the great bulk of the species belong to the section *Leiostoma*, which is represented by very few species in other parts of the world; and no species has yet been seen which corresponds with those with curved or lunate cells at the base of the leaves, which predominate in the eastern archipelago. *Schlotheimia* evidently receives its maximum development in Brazil, and seems also confined to the eastern side of the Andes. Bartramioid Mosses are chiefly conspicuous in the number of species belonging to the section *Breutelia*, all of which are confined to the mountains, excepting a small species in South Brazil.

Bryoid Mosses of the genus *Mielichhoferia* are numerous in the Andes, but have not been gathered in the mountains of the West-Indian Islands; of *Bryum* the greatest part of the numerous species are found in the region of the Andes.

The most conspicuous group, for the abundance of its species and the variety of its forms, is that of the Hookerieæ, which, including the genus *Daltonia*, contains about 200 species. *Daltonia* appears to be confined to the mountains, and chiefly to the Andes. Hookerieæ of the genera *Cyclodictyon* and *Callicostella* are spread over the whole region as far as South Brazil; but *Pilotrichum*, as here restricted, seems confined to the West-Indian Islands and the circumjacent portions of the mainland; two species are found about the regions drained by the Amazons, but none has been seen from more southern regions.

Cryphieæ extend from Mexico to South Brazil, the species on the western side of the Andes being similar to those found in Australia.

Prionodon, a genus differing in little beyond its creeping primary stem from the noble *Spiridens*, has one species (*P. densus*, Sw.) common to the West-Indian Islands, Central America, and the Equatorial, especially the Bogotean Andes, in which last region, however, it is associated with a number of closely allied but distinct species, none of which have been seen from Chili.

Porotrichum, including its complete development *Thamnium*, produces a number of species, chiefly confined to the mountains of the islands and mainland.

The *Meteoria*, abundant in species, appear generally distributed as far as South Brazil, but are chiefly confined to the eastern side of the Andes.

The Hypnoid Mosses here enumerated under the name *Sematophyllum* are very abundant, from the West-Indian Islands to South Brazil. *Entodon* has many species, which occupy the same large area; but *Hypna* of the group *Brachythecium* appear to be wanting in the plain of the Amazons, and also in Brazil, the species appearing to be almost confined to the Andes.

Fissidens, as might be expected, presents a great number of minute species, but has but very few of an imposing size; it is, however, accompanied in the Equatorial Andes by two allied genera, one of which is peculiar to that region, and the other has been found elsewhere only in the remote islands of Tristan d'Acunha and Bourbon.

The Polytricheæ are remarkable for the number of the species referable to the genus *Polytrichadelphus*, which has only one other species in British Columbia, and another common to New Zealand, Tasmania, and Australia; in South America the species appear to be distributed along the mountains from the Bogotean Andes to Fuegia, only one species being present in the Brazilian mountains.

Sphagna are found in the West-Indian Islands, in Mexico, also in the Bogotean Andes and at a few places in the region of the Amazons, but were not found by Mr. Spruce in the Quitenian Andes; they occur in Brazil, and are probably more plentiful towards the southern extremity of the Andes of Chili.

In some instances it has been found impossible to identify species stated to be not rare, and they probably appear in the enumeration under other names as well as under those to which they are more correctly entitled; for it frequently happens that the omission of some minute particular, in a description which may have appeared to the describer sufficient for the identification of the species intended, has rendered it impossible to assign with exactness the position it should occupy in an arrangement, for very lengthy descriptions, which are required when a few species are described as fragments of a Flora, become less necessary when all the chief characters can be supplied by a careful arrangement of the individuals into groups to which they are common. It was with this conviction that the first idea of a complete catalogue of South-American Mosses, which should include all the numerous additional species gathered by Mr. Spruce, digested into some order, has led to the amplification and completion of the following enumeration, which, with its doubtless numerous errors, may serve as a point of departure in the investigation of the Mosses of the vast regions included in the territory to which it relates.

In order to avoid any obscurity in the use of the various terms, there is here added the following short description of the structure of the various portions of a Moss which are available for the purpose of arranging the species in genera and natural groups.

A Moss is composed of the following parts :—The stem, which is either short or elongated, erect, rooting only at the base, fertile from the apex, and continued by innovations arising below the inflorescence, or it is procumbent, creeping, rooting throughout its length or at intervals, and fertile on abbreviated proper branches ; or it may have a creeping primary stem and erect or ascending branches, fertile at their apices, or from their sides. When the stem is very short, it is usually fleshy and but little indurated, but when much elongated it is frequently hard and woody. The leaves are inserted across the stem at a right angle with its axis, or sometimes obliquely, more rarely parallel with it. They are composed of a single layer of cells all uniform in structure (*Homodictyæ*), or of two kinds of cells diverse in form as well as in their contents (*Heterodictyæ*), and have one or two nerves or are entirely nerveless ; in some instances the nerve is so much enlarged that it constitutes in itself almost the entire leaf. In Mosses with erect stems and terminal fructification the leaves are frequently increased in size towards the inflorescence ; but those immediately surrounding the organs of reproduction are usually of a different form, and composed of differently formed cells, from those of other portions of the stem.

The male inflorescence consists of *antheridia*—small cylindrical oblong bodies opening at their apices for the emission of their contents (the *spermatozoids*), very minute bodies consisting of a spiral fibre with an exceedingly minute globular body attached to its middle ; and these at maturity are possessed of spontaneous motion. These antheridia are intermixed with hyaline articulated filaments or *paraphyses*, and, with them, are enclosed by the perigonal leaves in a small bud-like flower (*flos gemmaceus*), or are surrounded at the apices of the stems by short spreading leaves leaving the antheridia visible from above (*flos discoideus*). The female inflorescence consists of *archegonia*—small flask-shaped bodies of the same colour as the antheridia, and like them mixed with paraphyses. In some species both male and female organs are found in the same flower (*flores synoici*). After fertilization the archegonium increases in size and length, its contents, at first imperceptible, gradually increase, and at length the enlarged archegonium breaks away transversely near its base, leaving the base as the *vaginula*, which surrounds the base of the young fruit; and the upper portion is carried up on its point to become the calyptra, which is afterwards burst by the expansion of the fruit on one side (*calyptra dimidiata* or *cucullata*), or it is divided more or less equally into laciniæ at its base (*calyptra multifida*, or, if much enlarged, *mitriformis*). The fruit, in its order of evolution, consists at first of a prolongation from the base of the interior of the archegonium, and remains short, or more frequently is continued by growth, apparently at its apex, and is there finally enlarged into a globular or oblong capsule or *theca*, which contains the sac or *sporangium*, in which the seeds are included around a *columella* which arises from its base. The sporangium occupies the whole of the upper portion, and often nearly the entire cavity, of the capsule; when it does not reach to the base, the lower portion of the capsule collapses, and is contracted into a *collum* or neck, and all that portion of the fruit which occupies the space between the collum and the vaginula is named the *seta* or *pedunculus*. As the capsule approaches maturity, it is most frequently more and more indurated, and when ripe bursts irregularly, in the *Musci Schistocarpi*, at its sides or ends or by longitudinal fissures in its upper part, the segments cohering at their apices—or, in the *Musci Stegocarpi*, by the transverse separation of its upper portion. This upper portion has then interposed between itself and the capsule proper a highly hygrometric ring of cells (the *annulus*), which is either set free at the fall of the upper portion of the capsule or *operculum*, and falls off with it, or remains attached to the mouth of the capsule itself; or sometimes this organ is obsolete, and when the operculum falls it carries with it the apex of the columella and exposes to view the *peristome*, consisting either, in the *Elasmodontes*, of a conical membrane composed of elongated narrow cells and cleft into four equal divisions, or, in the *Arthrodontes*, of a highly complex organ consisting of eight, sixteen, or thirty-two equal narrow teeth, which are composed of many wide short cells, and are very hygroscopic, opening or closing, as they are affected by the atmosphere, for the escape or retention of the spores. Each of these teeth is composed of three bands of cells, two external, and usually coloured, one internal, always hyaline: the external two are of a somewhat fleshy substance, frequently dotted or striate, and are placed side by side; they cohere together, and towards the apex of the tooth they become confluent with each other; the line of their cohesion in the lower portion of the tooth is called te *linea media* or *divisuralis.* The internal band equals or sometimes exceeds in width the united external bands: internally it presents a very convex surface, with its transverse articulations or *trabeculæ* frequently very prominent; externally its surface is plane, and to this the external bands everywhere cohere. When the internal band exceeds in width the external, the teeth appear as if bordered with a hyaline membrane. Sometimes the two external bands are separated along the medial line; and the teeth then appear to have a hyaline mark or fissure. At their base the teeth are combined with, and appear to originate from, the internal wall of the capsule. Within the external peristome just described, and adhering to its base, is a thin transparent membrane, composed at its base of eighty quadrangular cells; this membrane, the *peristomium internum,* is regularly divided into sixteen wider segments, each two cells wide at its base, and carinate outwardly along the line by which they cohere; or more frequently they are perforated along this keel, and cohere only by the laterally prominent articulations, or not at all; these segments are the *processes* of the inner peristome, and are arranged alternately with the teeth of the external peristome, so that the keel of one of the processes comes between each of the teeth. Interposed between each of the processes are three very narrow cilia, each of which is one cell wide. The processes and cilia are usually of equal length with the teeth, and are pale and membranous; very rarely the processes are coloured. Such being the structure of the most complete or normal peristome, it will be necessary to consider its modifications, and those states in which some of the constituent parts are reduced or become entirely obsolete. In the greater number of species with complete peristomes, the apices of the processes are entire, like those of the teeth, from the confluence of the upper cells; but in some cases the processes are divided throughout their length into two divergent segments. This occurs in *Acidodontium* and in *Bartramia.* The cilia are sometimes confluent into one, and are often altogether obsolete; the entire internal peristome may be only a membrane, irregularly divided by the rudiments of abortive processes, or may be wanting altogether: the external peristome, too, may be observed in many incomplete states, the internal band being so reduced in thickness as to be imperceptible, and the teeth appearing to consist of the external bands only. Species occur in many natural genera which are either entirely destitute of peristome, and termed *gymnostomous*, or which only produce that organ under certain favourable conditions.

There are also a number of diminutive species which have the capsule constantly closed; in some of these the divisural line at which the operculum should separate is clearly marked, in others this line is entirely wanting. These species have usually been considered to form a section apart from the operculate Mosses, under the name of *Cleistocarpi*; but they have less of affinity with each other than they have with the species of several operculate and peristomate genera, with which they are connected by those species which have a defined although persistent operculum; and in the arrangement here used they have been placed in juxtaposition to those genera to which they are most closely related in all other particulars of habit and structure.

One other form of peristome remains to be considered, in which the teeth, about thirty-two or sixty-four, but not exactly constant in number, are entirely composed of exceedingly narrow elongated agglutinated filaments. In these Mosses, the *Nematodontes*, either the thin short teeth cohere by their apices with a tabular expansion of the top of the columella, and the mouth of the capsule therefore appears as if closed by a membrane, or the filaments are entirely free, and form a brush with which the mouth of the capsule is filled; or they may be united into a folded membrane.

The whole of the Musci being therefore capable of division into a few primary sections by the structure of their fructification, such other characters as are afforded by habit or especial modifications in the evolution of the peristome become available for use in distinguishing the different tribes and genera, in the following manner:—

CONSPECTUS TRIBUUM.

Subordo I. STEGOCARPI. Theca supra medium linea transversali aperiens, parte superiore caduca rarius persistente.

A. *Homodictyi.* Foliorum areolatio e cellulis homomorphis.

1. *Elasmodontes.* Peristomii dentes 4, e cellulis pluribus conflatis compositi, articulationibus transversis 0.

(Huc pertinent genera Europæa *Tetraphis* et *Tetrodontium*; species nullæ ex America australi obviæ.)

2. *Arthrodontes.* Peristomii dentes 16, vel (dentibus per paria coalitis) 8, vel (dentibus usque ad basin fissis) 32, pluries transversim articulati, e cellularum stratis binis compositi.

* *Folia in plano horizontali rarius verticali expansa.*

† *Caulis erectus, procumbens v. repens, ex apice v. ex apicibus ramorum elongatorum rarissime abbreviatorum fertilis.*

a. *Flores masculi gemmacei.*

Tribus 1. **Dicraneæ.** Folia viridia, sæpe elongata, angusta, nitida, nervo dilatato, cellulis basilaribus ad angulos sæpe majoribus coloratis. Peristomii dentes integri v. furcati.

Tribus 2. **Grimmieæ.** Folia viridia, brevia, obscura, sæpe hyalinopilifera, nervo haud dilatato, cellulis basilaribus haud coloratis. Peristomii dentes integri v. sæpius irregulariter fissi.

Tribus 3. **Leucobryeæ.** Folia albida, e nervo maxime dilatato formata. Peristomii dentes integri v. dicrani.

Tribus 4. **Syrrhopodonteæ.** Folia viridia, obscura, cellulis inferioribus in medio folio hyalinis. Peristomii dentes parvi, integri v. divisi.

Tribus 5. **Tortuleæ.** Folia viridia, obscura, cellulis inferioribus haud conspicue diversis. Peristomium simplex, rarius duplex, dentibus sæpe angustis elongatis tortis.

Tribus 6. **Orthotricheæ.** Folia viridia, obscura, cellulis inferioribus parum diversis elongatis. Peristomium simplex v. duplex, dentibus latis cum processibus internis alternantibus.

b. *Flores masculi discoidei.*

Tribus 7. **Splachneæ.** Peristomium internum 0. Calyptra conica.

Tribus 8. **Funarieæ.** Peristomium internum plus minus evolutum, processibus planis v. 0. Calyptra sæpe inflata, rostro tubuloso.

Tribus 9. **Bartramieæ.** Theca ut plurimum globosa plicataque. Peristomii interni processus carinati, per carinam fissi. Folia limitibus cellularum prominulis papillosa.

Tribus 10. **Bryeæ.** Theca ut plurimum clavata, lævis. Peristomii interni processus carinati, integri v. rarissime divisi. Folia lævia.

†† *Caulis repens, e ramulo proprio abbreviato laterali v. e latere ramorum caulis repentis liberorum fertilis.*

a. *Folia trifaria, biformia, superiora majora.*

Tribus 11. HYPOPTERYGIEÆ.

b. *Folia ut plurimum 10-faria.*

‡ *Folia sæpius inæqualia.*

Tribus 12. RHACOPILEÆ. Folia inæqualia, omnia siccatione sursum involuta, pagina interiore ad caulis latus superius spectante.

Tribus 13. HOOKERIEÆ. Folia inæqualia, seriebus utrinque 2 lateralibus longioribus sæpe verticaliter planis, seriebus reliquis minoribus appressis, rarius æqualia. Calyptra mitriformis.

‡‡ *Folia undique æqualia v. compressa, interdum in series plus minus distincte diversiformes disposita.*

Tribus 14. ERPODIEÆ. Fructus ramo brevi cauli simili immersus v. breviter exsertus. Calyptra plicata.

Tribus 15. NECKEREÆ. Fructus ramis frondiformibus e caule oriundis immersus v. exsertus.

Tribus 16. SEMATOPHYLLEÆ. Fructus in ramulo brevissimo e latere caulis v. ramorum oriundo sæpius longe pedunculatus. Folia enervia v. rarissime breviter 2-nervia, cellulis basilaribus ad angulos paucis oblongis a reliquis sæpe colore diversis.

Tribus 17. STEREODONTEÆ. Fructus in ramulo brevissimo sæpius longe pedunculatus. Folia 2-nervia v. enervia, cellulis basilaribus ad angulos sæpe abbreviatis densioribus.

Tribus 18. HYPNEÆ. Fructus in ramulo brevissimo sæpius longe pedunculatus. Folia 1-nervia.

** *Folia in planis duobus expansa.*

Tribus 19. SKITOPHYLLEÆ. Folia verticalia, margine inferiore in caulem descendente integro, superiore basi fisso caulem equitante.

3. *Nematodontes.* Peristomii dentes e filis liberis v. in processus dentiformes coalitis compositi.

Tribus 20. POLYTRICHEÆ. Peristomii dentes breves, apicibus ad columellæ apicem in tympani formam expansum adhærentibus.

Tribus 21. BUXBAUMIEÆ. Peristomium duplex, externum imperfectum v. subobsoletum, internum e membrana conoidea indivisa apice truncata, plicis extus acutis.

B. *Heterodictyi.* Foliorum areolatio e cellulis angustis chlorophyllosis, interpositis aliis echlorophyllosis, fibra sæpe repletis.

Tribus 22. Sphagneæ.

Subordo II. Schistocarpi. Theca apicem versus rimis longitudinalibus 4–8 aperiens.

Tribus 23. Andreæeæ.

CONSPECTUS GENERUM.

Tribus 1. Dicraneæ. Musci gregarie cæspitosi, caulibus plus minus elongatis gracilibus interdum elatis robustis erectis rarius repentibus. Folia nitida, rigidula, setaceo-acuminata, pellucide areolata, cellulis alaribus sæpe perspicuis, vel folia obscuriora crispata, cellulis obscurioribus papillosis. Fructus ex apicibus caulium vel ramorum elongatorum oriundus; theca erecta inclinatave, interdum arcuata, integra vel operculata, peristomio simplici, dentibus 16 latis per lineam mediam fissis furcatis vel ad basin usque in dentes 32 filiformes divisis.

Subtribus 1. Bruchieæ. *Theca operculo carens, clausa.*
Calyptra multifida .... 1. Sporledera.
Calyptra uno latere fissa.................................. 2. Pleuridium.

Subtribus 2. Dicranoideæ. *Theca operculata.*
Folia cellulis alaribus nullis.
Calyptra multifida .... 4. Brachyodus.
Calyptra uno latere fissa, basi fimbriata ...... 6. Sphærothecium.
Calyptra cucullata.
Folia cellulis ut plurimum limpidis areolata, firma.
Peristomii dentes breves, latiusculi, bifidi.
Theca æqualis; folia julaceo-imbricata 3. Angstrœmia.
Theca æqualis subinæqualisve, lævis vel subplicata; folia haud julacea .... 5. Dicranella.
Theca inæqualis, lævis .... 7. Anisothecium.
Peristomii dentes profunde divisi, filiformes.
Theca cylindracea, erecta suberectave, æqualis, lævis. 8. Cynontodium.
Theca inæqualis, lævis, operculo longe subulato. 9. Rhamphidium.
Theca collo longe descendente .... 10. Trematodon.
Theca collo brevi, plicata .... 11. Ceratodon.
Folia cellulis obscuris areolata, mollia.
Theca lævis.
Folia cirrhata. Peristomii dentes bifidi. 12. Symblepharis.

Folia contorta. Peristomii dentes teneri, fissi. 13. LEPTODONTIUM.

Folia contorta. Peristomii dentes integri. 14. OREOWEISIA.

Theca plicata .... 15. RHABDOWEISIA.

Folia cellulis alaribus conspicuis.

Lamina folii fasciis cellularum diversiformium orbata.

Flores solitarii.

Peristomii dentes 16 bifidi vel subintegri.

Caules erecti vel ascendentes.

Theca parva, demum turbinata...... 16. BLINDIA.

Theca cylindracea, erecta, lævis. Perichætium elongatum. 17. HOLOMITRIUM.

Theca cylindracea, recta vel curvata, lævis vel plicata. Perichætium haud elongatum ...... 18. DICRANUM.

Caules subrepentes .... 19. EUCAMPTODON.

Peristomii dentes in 32 divisi.

Calyptra fimbriata. Theca inclinata. 20. PILOPOGON.

Calyptra nuda. Theca erecta. ...... 21. ATRACTYLOCARPUS.

Flores plures in capitula communia acervati. 22. CAMPYLOPUS.

Lamina folii fasciis cellularum diversiformium striata.

Calyptra multifida .... 23. LEUCOLOMA.

Calyptra uno latere fissa.................... 24. PŒCILOPHYLLUM.

Tribus 2. GRIMMIEÆ. Musci caulibus plus minus elongatis ut plurimum dichotomis fastigiatim ramosis sæpe pulvinulos hemisphæricos formantibus ex apice fertilibus. Folia brevia, diu persistentia, sæpe nigricantia, apicibus sæpe in filum hyalinum productis, cellulis densis obscuris, inferioribus sæpe parietibus valde interruptis. Thecæ læves, plicatæ, æquales, peristomii dentibus 16 solidis vel plus minus profunde divisis pertusisve rarius nullis. Calyptræ sæpe mitriformes vel hinc profundius fissæ, rarius cucullatæ.

Calyptra lævis, cucullata vel parva mitræformis. Folia perichætialia a caulinis diversa .... 25. GRIMMIA.

Calyptra plicata, mitræformis. Folia perichætialia a caulinis haud diversa .... 26. GLYPHOMITRIUM.

Tribus 3. LEUCOBRYEÆ. Musci cæspitosi, caulibus gracilibus nigrofuscis. Folia albida, firma, ut plurimum e nervo dilatato cellulis magnis quadratis iridicoloribus pellucidis areolato composita, lamina ipsa fere obsoleta. Fructus ex apicibus caulium vel ramorum egrediens, interdum lateralis; theca erecta inclinatave, lævis vel plicata, peristomii simplicis dentibus solidis vel bifidis.

Calyptra multifida .... 27. OCHROBRYUM.
Calyptra cucullata.
Theca lævis .... 28. OCTOBLEPHARUM.
Theca plicata .... 29. LEUCOBRYUM.

Tribus 4. SYRRHOPODONTEÆ. Musci cæspitosi, caulibus dichotome divisis erectis rarius subrepentibus. Folia ligulata, brevia elongatave, rarius subulata, apice sæpe cupulato dilatato gemmifera, cellulis superioribus condensatis abbreviatis plus minus papillosis, inferioribus subito in majores hyalinas mutatis, margine ut plurimum calloso limbata, nervo sub apice abrupto sæpe spiculoso-denticulato percursa; perichætialia parum diversiformia. Theca in pedunculo rarius elongato oblonga, erecta, lævissima, rarius striatula, peristomii dentibus 16 valde imperfectis brevibus nullisve. Calyptra elongata, hinc fissa, lævis vel plicata, rarius brevis plurifida. *Habitatio* ad arbores et in rupibus umbrosis.

Calyptra lævis dimidiata, vel parva plurifida ... 30. SYRRHOPODON.
Calyptra plicata, basi amplexans .... 31. CALYMPERES.

Tribus 5. TORTULEÆ. Musci gregarie v. pulvinatim cæspitosi, caulibus erectis dichotomis subsimplicibusve brevissimis v. elongatis. Folia lata spathulata v. linearia subulatave, nervis interdum in pilum hyalinum excurrentibus, cellulis superioribus densis rotundatis granuloso-obscuris, inferioribus elongatis pellucidis. Fructus ex apicibus rarissime e latere caulium oriundus; theca erecta curvatave, clausa vel operculo deciduo, peristomii dentibus elongatis filiformibus 32 contortis, v. in 16 latiores, rarissime in 8 coalitis, e strato duplici cellularum formatis, basi in membranam plus minus latam coalescentibus, interdum deficientibus. Calyptra lævis, cucullata, rarissime basi plurifida vel mitræformis.

Calyptra dimidiata v. rarissime plurilobata.
Caulis ex apice fertilis.
Peristomium, si adsit, dentibus rectis 8 vel 16 ad basin usque discretis. Folia viridia vel flavo-viridia, margine incurva, cellulis parvis obscuris areolata .... 32. WEISSIA.
Theca clausa .... 33. PHASCUM.
Peristomium e dentibus 32 rectis vel contortis basi in membranam confluentibus .... 34. TORTULA.
Caulis a latere fertilis .... 35. ANŒCTANGIUM.
Calyptra mitræformis.
Calyptra conica, acuminata, basi plurifida ... 36. STREPTOPOGON.
Calyptra cylindracea, inflata, rostrata, basi integra, nuda vel fimbriis pendulis ornata .... 37. ENCALYPTA.

Tribus 6. ORTHOTRICHEÆ. Musci caulibus fastigiatis dichotome ramosis erectis pulvinatis, apice fertilibus, vel decumbentibus et repentibus, ramis fertilibus erectis simplicibus vel ramosis in cæspites latos congestis. Folia lanceolata vel lineari-lanceolata ligulatave, cellulis superioribus rotundatis granuloso-obscuris, inferioribus elongatis pellucidis. Thecæ erectæ, subsessiles, immersæ, vel in pedunculo plus minus elongato exsertæ, sæpius 8-plicatæ, peristomio duplici, externo dentibus 32 sæpe per paria cohærentibus 16 vel 8, interno ciliis processibusve cum dentibus totidem alternantibus vel in membranam coalitis, sæpe autem minus evoluto v. interdum deficiente. Calyptra plicata lævisve magna mitriformis, rarius parva, vel ima basi hinc fissa cucullata, ramentis ut plurimum pilosa.

Calyptra mitræformis.

Caules erecti, rarissime subrepentes, pulvinatim cæspitosi, apice fertiles. Theca plicata, rarius lævis, breviter penduncuiata. Peristomium externum dentibus 32, sæpius geminatim in 16 vel bigeminatim in 8 cohærentibus; internum ciliis 16 vel 8 dentibus similibus sæpe tenerioribus angustioribusque hyalinis, sæpe autem incompletum. Calyptra plicata, basi lobata .... 38. ORTHOTRICHUM.

Caulis repens, ex apicibus ramorum fertilis. Theca lævis plicatave, pedunculo evoluto exserta, rarissime pedunculo abbreviato subimmersa. Peristomium externum dentibus discretis geminatisve, internum processibus totidem dentibus similibus vel in membranam truncatam coalitis, sæpe autem simplex vel omnino deest. Calyptra campanulata, plicata, basi plurifida .... 39. MACROMITRIUM.

Caulis repens, ramis erectis apice fertilibus. Theca lævis vel plicata, pedunculo longiusculo exserta vel pedunculo abbreviato immersa. Peristomium externum dentibus 16, internum ciliis totidem plus minus evolutis membranæ impositis. Calyptra lævis, basi breviter lobata sæpe contracta......................... 40. SCHLOTHEIMIA.

Calyptra dimidiata.

Caulis repens, ramis erectis apice fertilibus. Theca lævis, pedunculo evoluto exserta. Peristomium simplex, dentibus 16. Calyptra lævis. 41. DRUMMONDIA.

Caulis erectus dichotomus vel repens, ramis erectis apice fertilibus. Theca pedunculo evoluto exserta, plicata. Peristomium externum dentibus 16, vel geminatim in 8 cohærentibus, internum laciniis totidem latis vel angustis, sæpe autem minus evolutum vel nullum. Calyptra angusta, lævis .... 42. ZYGODON.

Caulis erectus, apice fertilis. Theca longe pedunculata, demum plicata. Peristomium externum dentibus 16, internum laciniis totidem membranæ brevi impositis. Calyptra angusta, lævis. 43. APALODIUM.

Tribus 7. FUNARIEÆ. Musci caulibus erectis brevibus semel ramosis apice fertilibus. Folia lata, cellulis laxis teneris mollibus subhexagono-rhombeis lævibus. Thecæ sphæricæ pyriformes clavatæve, clausæ vel operculis deciduis; peristomium sæpe imperfectum, normale dentibus 16 striatis, internum laciniis totidem dentibus oppositis conformibusque; calyptræ parvæ vel magnæ vesiculosæ. Flores masculi in ramulo brevi laterali. *Habitatio* ad terram humidam.

Calyptra minuta, conica.
  Theca sessilis, clausa .... 44. Ephemerum.
  Theca sessilis, operculata .... 45. Leptangium.
Calyptra inflata, rostrata.
  Calyptra pluriloba .... 46. Physcomitrium.
  Calyptra hinc fissa.
    Theca æqualis, lævis. Peristomium dentibus 16 vel nullum.
    47. Entosthodon.
    Theca inæqualis, lævis vel plicata. Peristomium externum dentibus 16 obliquis apicibus cohærentibus, internum laciniite teneris dentibus oppositis .... 48. Funaria.

Tribus 8. Splachneæ. Musci humiles v. elatiusculi, caulibus subcarnosis. Folia latiuscula, mollia vel rigidula, cellulis laxis areolata. Thecæ erectæ, collo interdum tumido vel expanso carnoso, peristomii dentibus 16 vel 8 brevibus vel elongatis interdum deficientibus thecisque operculo persistente clausis, calyptris parvis. Flores monoici, masculo in ramo terminali. *Habitatio* in substantiis animalibus putridis vel in arboribus.

Genus unicum .... 49. Tayloria.

Tribus 9. Bartramieæ. Musci vel dichotomi vel ramulis verticillatis ramosi. Folia sæpius angusta, nervo percurrente vel excurrente, cellulis inferioribus laxioribus lævibus, superioribus minoribus limitibus exterioribus exstantibus, pellucidis vel chlorophylloso-obscuris. Thecæ magnæ, globosæ, rarius oblongæ, læves vel sæpius plicatæ, peristomio normali duplici, externo dentibus latis 16, interno processibus cum dentibus alternantibus in lacinias duas divergentes divisis, ciliis plus minus evolutis interpositis, interdum simplici aut nullo, calyptris parvis cucullatis. Flores synoici monoici vel dioici, masculo discoideo. *Habitatio* ad terram et in rupibus.

Genus unicum .... 50. Bartramia.

Tribus 10. Bryeæ. Musci caulibus erectis v. rarius repentibus. Folia undique æqualia horizontalia vel in plano verticali disticha, rarius inæqualia, cellulis elongatis limitibus angustis vel abbreviatis parietibus crassis firmis areolata, floribus terminalibus, rarius basilaribus. Thecæ ut plurimum longe pedunculatæ, oblongo-cylindraceæ, clavatæ pyriformesve, erectæ vel pendulæ, peristomio normali duplici, externo e dentibus 16, interno e processibus 16, ciliis tribus articulationibus interdum appendiculatis interpositis, vel peristomii minus perfecti ciliis lævibus abbreviatis deficientibusve; in paucis thecæ peristomio externo vel interno orbatæ, rarissime membrana indivisa præditæ vel gymnostomæ.

Flores in caule primario vel in innovationibus terminales.
  Folia omnia undique inserta æqualia.
    Theca lævis.
      Peristomium simplex, internum membrana indivisa. 51. LEPTOSTOMUM.
      Peristomium duplex, internum processibus imperfectis. Folia angusta, tenera .... 52. ORTHODONTIUM.
      Peristomium duplex, imperfectum vel sæpius perfectum. 53. BRYUM.
    Theca plicata .... 54. AULACOMNION.
  Folia compressa.
    Folia in plano verticali tetrasticha, æqualia. 55. DREPANOPHYLLUM.
    Folia disparia, majora in plano verticali disticha, minora stipuliformia horizontalia .... 56. EPIPTERYGIUM.
    Folia in caule fertili undique æqualia, in caule sterili interdum subbifariam disposita .... 57. MNIUM.
Flores in ramulo brevissimo basilari impositi.
  Folia brevia, tenera, nitida. Peristomium imperfectum vel nullum. 58. MIELICHHOFERIA.
  Folia brevia, obscura. Peristomium simplex internum. 59. HYMENODON.
  Folia brevia vel elongata. Peristomium perfectum. 60. RHIZOGONIUM.

Tribus 11. HYPOPTERYGIEÆ. Musci caulibus primariis repentibus, ramis inferne simplicibus stipitiformibus, superne in frondem eleganter pinnatim divisis. Folia in fronde tristicha compressa, disparia, serierum superiorum majora oblique inserta, seriei inferioris minora stipuliformia transverse inserta. Fructus e frondis parte superiore oriundus; thecæ plus minus longe pedunculatæ, peristomio perfecto vel ciliis carente, calyptris dimidiatis. *Habitatio* ad terram saxosque etiam in arboribus.

Genus unicum .... 61. HYPOPTERYGIUM.

Tribus 12. RHACOPILEÆ. Musci caulibus prostratis arcte radicantibus parum ramosis. Folia intense viridia, obscura, dense areolata, diversiformia, in caulis latere superiore minora.

Folia serierum 3 in caulis latere inferiore parva pellucida. Theca immersa. 62. HELICOPHYLLUM.

Folia serierum 3 in caulis latere inferiore obsoleta. Theca longe pedunculata .... 63. RHACOPILUM.

Tribus 13. HOOKERIEÆ. Musci caulibus procumbentibus depressis vel adscendentibus suberectisve dichotomis pinnatis vel subsimplicibus. Folia sæpius compressa et in series 10 disposita, quarum 3 (centralis cum 2 intermediis) in caulis latere superiore, 3 (centralis cum 2 intermediis) in inferiore, 2 utrinque laterales, foliis seriei centralis tam superiorum quam inferiorum minoribus rectis cauli appressis, serierum intermediarum paullulum majoribus obliquisque, serierum lateralium patentibus latioribus sæpeque diversiformibus, omnium cellulis angustis vel latis abbreviatis lævibus vel papilliferis areolatis. Fructus e caule primario vel e ramis oriundus; theca breviter vel longe pedunculata, erecta inclinata horizontalis vel pendula, operculo subulato, peristomio duplici, dentium lamina externa internæ æquilata, linea media divisurali exarata vel per medium late divisa, divisionibus angustis versus margines laminæ internæ impositis vel lamina externa multo angustiore per medium laminæ interioris continua; peristomio interno processibus imperforatis, ciliis interpositis nullis, calyptris basi plurifidis.

Folia binervia vel enervia.
  Caulis fertilis procumbens, vage vel pinnatim ramosus, rarissime arbusculosus .... 64. HOOKERIA.
  Caulis repens, ramis fertilibus adscendentibus simplicibus furcatis vel pinnatim ramosis. Folia compressa, rarius subæqualia, ut plurimum nitida .... 65. LEPIDOPILUM.
  Caulis repens, ramis fertilibus arbusculosis pinnatis bipinnatisque ramosis. Folia parva, teretiuscula, imbricata, obscura. 66. PILOTRICHUM.
Folia uninervia vel subenervia.
  Folia disparia compressa.
    Caulis erectus vel adscendens. Theca erecta, peristomio simplici. 67. ADELOTHECIUM.
    Caulis adscendens vel erectus. Theca pendula. 68. ERIOPUS.
    Caulis erectus adscendens vel procumbens. Theca erecta, inclinata horizontalisve. Folia tenera .... 69. DISTICHOPHYLLUM.
    Caulis erectus vel adscendens. Theca longe pedunculata pendula. Folia carnosa .... 70. PTERYGOPHYLLUM.
  Folia æqualia .... 71. DALTONIA.

Tribus 14. ERPODIEÆ. Musci pusilli, caulibus procumbentibus. Folia compressa vel tereti-imbricata, parva, lata, enervia, cellulis parvis areolata, fructu in ramo breviore laterali vel longiore terminali. Theca subsessilis vel breviter pedunculata, gymnostoma, calyptris plicatis plurifidis vel uno latere versus apicem fissis. *Habitatio* in arborum cortice.

Genus unicum .... 72. ERPODIUM.

Tribus 15. NECKEREÆ. Musci caulibus repentibus, ramos liberos ut plurimum pinnatim ramosos emittentibus. Folia undique æqualia vel compressa inæqualiaque uni- vel breviter binervata, cellulis densis sæpe rotundatis interdum angustis elongatis teneris. Fructus ex apicibus ramorum vel e latere partis superioris ramorum oriundus; thecæ sæpe inter folia perichætialia immersæ, pedunculo brevissimo vel elongato erectæ inclinatæve, peristomio sæpius ciliis carente, interdum simplici vel nullo, in paucis perfecto, calyptris parvis plurifidis vel dimidiatis.

Subtribus 1. CRYPHÆEÆ. *Rami fertiles foliis undique æqualibus cellulis parvis abbreviatis densis areolatis obscuris vel subnitidis.*

Rami flagelliferi vel rarissime flagellis obsoletis.

Fructus terminalis .... 73. HEDWIGIA.

Fructus lateralis .... 74. LEUCODON.

Rami eflagelliferi.

Fructus in ramulo brevi vel longiore terminalis. Theca in perichætio convoluto immersa .... 75. CRYPHÆA.

Fructus ad latera ramorum ramulorumque. Theca subsessilis e perichætio parvo exserta.................. 76. PRIONODON.

Subtribus 2. METEORIEÆ. *Rami fertiles e caule repente radicanteque oriundi, v. cauli pendulo prolixo libero interdum ramis arbusculosis impositi. Folia undique æqualia v. serialia v. compressa, interdum bifariam disposita, cellulis angustis areolata, nitida v. obscura.*

Rami fertiles breviusculi, parum ramosi, inferne tomento radiculoso in cæspites intertexti, erecti, caule repente fere obsoleto. Folia undique æqualia. Theca exserta, peristomio externo obsoleto. Calyptra elongata, dimidiata .... 77. LEPYRODON.

Rami fertiles elongati, pinnatim ramosi, ex apice continui, prolixe producti. Folia disticha, complicata, equitantia. Theca immersa vel breviter exserta, peristomio parvo depresso simplici (externo). Calyptra parva, latere fissa .... 78. PHYLLOGONIUM.

Rami fertiles inferne simplices stipitiformes, superne in frondem pinnatam arbusculosamve ramosam divisi, vel interdum ramulis æqualibus per longitudinem pinnati. Folia undique æqualia vel compressa. Theca immersa vel exserta, peristomio parvo depresso, dentibus inter se et cum rudimentis peristomii interni cohærentibus. Calyptra parva, integra .... 79. PTEROBRYUM.

Rami fertiles breviusculi, simplices vel pinnatim ramulosi, e caule repente vel libero pendulo prolixe continuato oriundi. Folia undique æqualia vel subcompressa. Theca immersa vel exserta, peristomio perfecto vel sæpius ciliis carente. Calyptra plurifida vel uno latere tantum fissa .... 80. METEORIUM.

Rami fertiles elongati prolixi pinnati, caule repente obsoleto. Folia bi-, tri- vel plurifaria, nervis obsoletis. Theca in apice ramuli fertilis producti immersa, peristomio duplici, interno processibus subliberis vel plus minus in conum clathratum connexis. Calyptra parva, integra .... 81. FONTINALIS.

Rami fertiles elongati prolixi fasciculatim pinnati, caule repente obsoleto. Folia plurifaria binervia. Theca in apice ramuli fertilis producti immersa, peristomio simplici (externo) vel nullo. Calyptra parva, integra .... 82. HYGROPOGON.

Subtribus 3. EUNECKEREÆ. *Rami fertiles pinnatim divisi plumiformes vel arbusculosi stipitatique. Folia compressa rarissime undique æqualia, sæpius inæqualia disticha, cellulis sæpe abbreviatis densis areolata, nitida rarius obscura.*

Rami fertiles procumbentes pinnati bipinnative subfasciculati. Theca brevipedunculata exserta. Peristomium simplex (externum).
83. LEPTODON.

Rami fertiles per longitudinem æqualiter pinnatim ramosi plumiformes. Theca sæpe in perichætio ampliato immersa. Peristomium duplex, imperfectum. Calyptra parva, plurifida vel dimidiata.
84. NECKERA.

Rami fertiles vage subpinnatimve ramosi flagelliferi. Theca longe pedunculata. Peristomium duplex, internum ciliis imperfectis. Calyptra dimidiata .... 85. HOMALIA.

Rami fertiles inferne simplices stipitiformes, superne in frondem arbusculosam pinnatim divisi. Peristomium perfectum vel ciliis carens. Calyptra cucullata .... 86. POROTRICHUM.

Tribus 16. SEMATOPHYLLEÆ. Musci humiles, rarius elati, late cæspitosi, rarius arbusculoso-ramosi. Folia ut plurimum parva, nitida, lævia, rarius cellulis papilliferis obscuris donata, cellulis basilaribus ad angulos oblongis fulvis, majoribus sæpe conspicuis, nervis nullis vel rarissime binis subobsoletis. Thecæ parvæ, tenuiter pedunculatæ, operculis sæpe longe rostratis.

Caulis repens, ramis assurgentibus simplicibus. Fructus e caule oriundus. Theca angusta, operculo brevi, peristomio simplici externo.
87. MEIOTHECIUM.

Caulis repens, ramis adscendentibus subpinnatis vel vage ramosis. Fructus e ramis oriundus. Theca parva, operculo brevi, peristomio simplici externo vel duplici, processibus sessilibus vel in membranam exsertis .... 88. POTAMIUM.

Caulis procumbens repensve pinnatim ramosus. Fructus e caule vel e ramis oriundus. Theca oblonga, inclinata, operculo longe subulato, peristomio interno processibus in membranam impositis, ciliis nullis vel in paucissimis speciebus brevibus imperfectis.
89. SEMATOPHYLLUM.

Caulis prostratus, ramis pinnatim approximatis vel assurgentibus in cæspitem depressam congestis. Fructus e caule oriundus. Theca inclinata horizontalisve, operculo brevi, peristomii ciliis singulis nullisve .... 90. TAXITHELIUM.

Tribus 17. STEREODONTEÆ. Musci humiles v. elati, caulibus repentibus procumbentibus vel adscendentibus vage vel pinnatim ramosis interdum inferne stipitatis arbusculosis. Folia compressa vel undique æqualia, binervia enerviave, cellulis angustis lævibus vel apicibus prominentibus, alaribus abbreviatis obscuris vel nullis. Fructus e caule oriundus; theca erecta, inclinata vel pendula, operculo sæpius brevirostrato, peristomio interno processibus solidis vel rarissime pertusis, ciliis plus minus perfectis vel deficientibus.

Peristomii interni processus ultra apices dentium peristomii externi protrusi longioresque .... 91. SYRINGOTHECIUM.

Peristomii interni processus dentibus peristomii externi æquilongi vel breviores.

Caulis procumbens, ramis inæquilongis fasciculatim ramosus. Folia compressa, disticha, seriebus 3 superioribus (centrali intermediisque) vix obviis, seriebus 3 inferioribus deficientibus, brevissime binervia, cellulis angustis lævibus. Theca inclinata horizontalisve, oblonga, ciliis peristomii interni in unum coalitis.
92. ISOPTERYGIUM.

Caulis procumbens, subsimplex vel pinnatus. Folia compressa, æqualia, enervia, laxissime areolata. Theca parva, horizontalis pendulave, operculo longirostri, peristomii externi lamina integra vel inferne divisa, interni ciliis plus minus perfectis nullisve.
93. LEUCOMIUM.

Caulis fasciculatim ramosus, depressus vel adscendens, brevistipitatus, arbusculosus. Folia æqualia, in ramulis interdum compressa, cellulis angustis apicibus sæpe prominulis areolata, binervia. Theca longe pedunculata, demum pendula, brevis, operculo brevirostri basi lato, peristomii interni ciliis plus minus perfectis vel nullis.
94. MICROTHAMNIUM.

Caulis procumbens repensve ramos adscendentes subsimplices vel pinnatim divisos emittens. Folia ramea a caulinis valde diversiformia, breviter binervia, cellulis angustis pluribus abbreviatis papilliferis haud nitidis. Fructus e caule oriundus. Theca inclinata, horizontalis, operculo brevi. Peristomium internum ciliis plus minus perfectis nullisve .... 95. HETEROCLADIUM.

Caulis procumbens vel adscendens, pinnatim vel subfasciculatim divisus. Folia æqualia vel compressa secundaque, cellulis angustissimis elongatis lævibus areolata, nitida, enervia vel breviter binervia. Fructus e caule oriundus. Theca inclinata, operculo brevi, peristomio perfecto vel ciliis nullis......................... 96. CTENIDIUM.

Caulis procumbens, ramis brevibus æqualibus distiche insertis dense pinnatus. Folia compressa, diversiformia, breviter binervia, cellulis angustis areolata. Fructus e caule oriundus. Theca in pedunculo elongato brevis, horizontalis v. pendula, urceolata, operculo brevirostri, peristomii interni ciliis coalitis .... 97. ECTROPOTHECIUM.

Caulis procumbens adscendensve, vage parceque ramosus. Folia compressa, rarius undique æqualia, oblique inserta, breviter binervia subenerviave, cellulis pellucidis areolata. Fructus ex inferiore parte caulium vel ramorum oriundus. Theca erecta inclinatave, lævis vel plus minus distincte plicata, operculo brevi, peristomii externi lamina interna parum evoluta, interno ciliis plus minus perfectis vel nullis. 98. PLAGIOTHECIUM.

Caulis repens ramis adscendentibus, vel procumbens adscendensve, pinnatus. Folia æqualia vel parum diversiformia. Fructus e caule oriundus. Theca cylindracea, erecta, operculo brevi, peristomio brevi, interni processibus obscuris coloratis...... 99. ENTODON.

Caulis procumbens vage subpinnatim ramosus. Folia undique æqualia vel compressa, disticha, brevissime nervata, cellulis angustis nitidis areolata. Fructus e caule oriundus. Theca cylindracea, inclinata, operculo brevi, peristomii interni ciliis coalitis. 100. ACROCLADIUM.

Caulis procumbens repensve ramis adscendentibus, vel adscendens, pinnatus. Folia inæqualia, diversiformia, ut plurimum secunda, curvata, nervis fere obsoletis, cellulis angustis areolata. Theca cylindracea, erecta vel arcuata, operculo brevi, peristomio interno plus minus perfecto.................................101. STEREODON.

Caulis adscendens vel erectus, vage ramosus. Folia undique æqualia, nervis fere obsoletis, cellulis angustissimis pellucidis areolata. Theca plicata, operculo longirostri, peristomii externi lamina externa inferne per medium divisa ....102. PTYCHOMNION.

Caulis procumbens adscendensve suberectus pinnatus, interdum paraphyllis inspersus. Folia undique æqualia, breviter binervia, cellulis angustis elongatis areolata. Theca horizontalis, lævis, operculo brevi, peristomii interni ciliis singulis..........103. PLEUROZIUM.

Tribus 18. HYPNEÆ. Musci caulibus repentibus, ramis breviusculis adscendentibus simplicibus vel ramosis, interdum basi stipitiformibus superne arbusculosis. Folia undique æqualia vel compressa inæqualiaque, uninervia, cellulis elongatis lævibus vel abbreviatis papillosis obscuris. Fructus e caule vel e ramis oriundus; theca erecta, inclinata horizontalisve, operculo conico vel brevirostrato, peristomio duplici perfecto, interno processibus pertusis vel minus evoluto, interdum deficiente, calyptris cucullatis.

Caulis repens, ramis assurgentibus in cæspitem congestis ramosus. Folia undique æqualia, cellulis lævibus elongatis. Theca erecta suberectave, peristomio simplici, dentibus 16 vel in 8 coalitis, v. interdum deficiente. 104. FABRONIA.

Caulis repens, ramis adscendentibus. Folia æqualia, cellulis rhombeis.

Theca erecta, peristomio duplici, dentibus reflexilibus, lamina interna obsoleta, interni processibus filiformibus .. 105. ANACAMPTODON.

Caulis repens, ramis adscendentibus. Folia æqualia, cellulis abbreviatis obscuris densis areolata. Theca erecta, peristomio simplici dentibus per lineam mediam fissis bifidisve .... 106. DIMERODONTIUM.

Caulis prostratus vel procumbens, vage ramosus. Folia compressa, disparia, serierum trium superiorum minora, serierum lateralium utrinque duarum majora, seriebus inferioribus deficientibus, cellulis sæpe abbreviatis areolata. Theca inclinata subhorizontalisve, peristomio duplici, interno plus minus perfecto ...... 107. STEREOPHYLLUM.

Caulis procumbens repensve, ramis pinnatim dispositis vel adscendentibus in cæspitem congestis, interdum adscendens suberectus subarbusculosus. Folia undique æqualia, cellulis elongatis areolata. Theca erecta, inclinata horizontalisve, æqualis vel gibba.
108. HYPNUM.

Caulis primarius repens rhizomatiformis, ramos erectos inferne simplices superne in frondem decompositos producens. Folia in media fronde æqualia vel inæqualia et compressa. Theca inclinata horizontalisve, plicata, peristomio perfecto .... 109. HYPNODENDRON.

Caulis prostratus, repens, ramis assurgentibus subsimplicibus. Folia cellulis abbreviatis obscuriusculis lævibus. Theca suberecta, peristomio interno processibus elongatis externum superantibus.
110. RHEGMATODON.

Caulis repens adscendensve, interdum procumbens, pinnatus. Folia æqualia, cellulis brevibus obscuris areolata. Theca cylindracea, erecta inclinatave, peristomii interni ciliis nullis.... 111. LESKEA.

Caulis repens prostratus, adscendens vel in cæspites compactiores erectus, pinnatus. Folia æqualia, cellulis elongatis areolata. Theca cylindracea, inclinata, arcuata, peristomii interni processibus solidis, ciliis perfectis v. deficientibus................ 112. AMBLYSTEGIUM.

Caulis primarius repens, ramos arbusculosos vel vage elongatos producens. Folia æqualia, cellulis parvis brevibus obscuris densis. Theca inclinata horizontalisve, peristomio perfecto ...... 113. SCIAROMNION.

Caulis procumbens adscendensve interdum arcuatus, apicibus descendentibus radicantibusque, exinde prolifero-continuatus, paraphyllis obtectus, rarius nudus, ramis ramulisque bipinnatim dispositis bi- tripinnatus. Folia caulina æqualia, ramea ramulinaque diversiformia, inæqualia, cellulis elongatis vel abbreviatis, sæpius papilliferis obscuris. Theca inclinata horizontalisve, rarissime erecta, peristomio perfecto vel ciliis interdum imperfectis obsoletis deficientibusve.
114. THUIDIUM.

Tribus 19. SKITOPHYLLEÆ. Musci caulibus erectis adscendentibusve subsimplicibus, interdum fluitantibus prostratis ramosis. Foliorum lamina vera conduplicata, basi equitans, apice in prolongationem verticalem foliiformem per carinam in caule descendentem educta.

Fructus ex apicibus caulium vel in ramulo brevi laterali interdum basilari oriundus; theca subsessilis vel longius pedunculata, peristomii dentibus 16 fissis raro solidis, rarissime in 8 coalitis. Calyptra parva, subintegra vel dimidiata.

Caulis simplex. Folia bifariam equitantia, carina alata. Flores masculi fœmineique terminales .... 115. BRYOZYPHIUM.

Caulis simplex ramosusve. Folia bifariam equitantia, carina late alata foliiformi. Flores terminales, laterales vel basilares. Theca lævis. Peristomii dentes bifidi .... 116. FISSIDENS.

Caulis ramosus. Folia bifariam equitantia, apice alata. Flores fœminei in ramulo brevi laterales, masculi terminales. Theca lævis. Peristomii dentes solidi...................... 117. SORAPILLA.

Caulis erectus, superne ramosus. Folia inferne sparsa, superne subbifaria, complicata, ala carentia. Flores basilares. Theca plicata. Peristomii dentes fissi .... 118. EUSTICHIA.

Tribus 20. POLYTRICHEÆ. Musci caulibus erectis e rhizomate subrepente oriundis simplicibus, interdum ramosis, tenuibus. Folia undique disposita, nervo intus lamellis angustis plus minus dense obtecto percursa, e cellulis abbreviatis densis areolata. Flores discoidei; theca plus minus longe pedunculata, peristomio e dentibus brevibus 16–64, apicibus cum apice columellæ tympaniformi dilatato cohærentibus; calyptræ dimidiatæ, sæpe indumento e filis angustissimis appressis descendentibus vestitæ. *Habitatio* ad terram, rarissime in ligno putrido.

Calyptra nuda.
  Folia cartilagineo-limbata .... 119. ATRICHUM.
  Folia haud cartilagineo-limbata.
    Theca cylindracea .... 120. OLIGOTRICHUM.
    Theca subcompressa ore obliquo .... 121. PSILOPILUM.
    Theca biangulata, demum horizontalis, latere superiore plano vel concavo .... 122. POLYTRICHADELPHUS.
Calyptra indumento villoso obtecta.
  Theca cylindracea, lævis vel indistincte plicata. 123. POGONATUM.
  Theca quadrangularis vel sexangularis .. 124. POLYTRICHUM.

Tribus 21. BUXBAUMIEÆ. Musci caulibus brevibus, sæpe subnullis. Thecæ magnæ, subovatæ, oblique ad operculum erectum adscendentes.

Genus unicum...................... 125. DIPHYSCIUM.

Tribus 22. SPHAGNEÆ. Musci caulibus erectis simplicibus vel furcatis, ramis simplicibus adscendentibus vel recurvatis in fasciculos confertis undique e caule egredientibus vestitis. Folia apice sæpe dissilientia angustissime limbata, cellulis amplis poris pertusis parietibus e cellulis angustioribus viridibus formatis. Fructus ex apice rami proprii e centro fasciculorum oriundus; theca sessilis, globosa, demum in prolongatione rami fertili peduncuIiformi exserta, operculo convexo; calyptra tenuissima, medio transversim rupta, parte inferiore vaginula adhærente obvelata. Flores masculi antheridiis globosis pedicellatis, in axillis foliorum ad apices ramorum amentiformes congesti. *Habitatio* ad terram locis aquosis.

Genus unicum............................126. SPHAGNUM.

Tribus 23. ANDREÆÆ. Caules procumbentes vel erecti. Folia quaquaversus inserta uninervata vel enervia, cellulis limitibus latiusculis densis areolata. Fructus terminalis. Theca primum in perichætio immersa demum breviter exserta. Calyptra mitriformis tenuissima, capsulæ adhærens. Flores masculi gemmacei.

Genus unicum............................127. ANDREÆA.

Tribus I. DICRANEÆ.

Subtribus I. BRUCHIEÆ.

1. SPORLEDERA, Hampe in Linnæa, xi. 279.

Musci minuti, caulibus brevissimis. Folia angusta. Thecæ satis magnæ, membranaceæ, fatiscenter ruptæ. *Habitatio* in terra nuda.

Theca obovalis	1. *S. Hampeana.*
Theca globosa	2. *S. subenervis.*
Theca elliptico-rotundata	3. *S. Lindigiana.*

1. S. HAMPEANA (*C. Müll. Syn.* i. 18, Bruchia). "Monoica. Folia e basi latiuscula attenuato-subulata, obscure denticulata, breviacuminata, solidinervia. Calyptra media, in lacinias plures subæquales fissa, papillis magnis verrucosa. Flos masculus in ramo proprio ad caulis basin posito.

"Phascum brevipes, *Schwægr.* t. 333 *b,* sed calyptra false epapillosa delineata."—*C. Müll. l. c.*

Hab. Chili, *Herb. Schwægrichen.*

2. S. SUBENERVIS (*Hampe in Ann. Sc. Nat.* ser. 5. iii. 337). Monoica, erecta, simplex, lutescens, laxe cæspitosa; caulis basi attenuatus, apice patentim foliatus. Folia inferiora breviora, lanceolata, cuspidata, appresse imbricata; superiora longiora, oblongo-lanceolata, cuspidata, patentia, integerrima; nervo obscuro dilatato cellulis densius aggregatis notabili; cellulis basilaribus tetragono-cylindricis amplioribus pellucidis, superioribus dense aggregatis linearibus translucentibus. Theca subsessilis, apiculata; calyptra minima, mitriformis, latere excisa.

Hab. Bogota, Pacho (2200 met.), in convallibus Barrancas dictas, inter *Illecebrariam* pauca specimina a *Lindigio* lecta.

A *S. palustre* (Europæa) proxima differt: caule strictiore, foliis caulinis appressis, perichætialibus magis patulis fere recurvis, nervo indistincto subevanescente et calyptra minima breviore.—*Hampe, l. c.*

3. S. LINDIGIANA (*Hampe in Ann. Sc. Nat.* ser. 5. iii. 338). Monoica, pusilla, subacaulis, interdum e ventre adaucta, flavescens, laxe cæspitosa, gregaria. Folia inferiora abbreviata, minora, patentia, tandem recurva, carinata, lanceolato-subulata, integerrima, nervo obscuro ad apicem producto, cellulis minoribus densioribusque intense rufescentibus; superiora flexuosa, concava, latiora, oblongo-lanceolato-subulata, integerrima, cellulis basilaribus anguste pentagono-linearibus rufescenti-diaphanis, intermediis elongatis pellucidis pallidioribus in subula linearibus, omnibus interstitiis tenuioribus notatis lutescenti-diaphanis. Theca obtuse acuminata; calyptra brevissima, campanulata, stylifera, basi lacera glabra.

Hab. Bogota, Pacho (3200 met.), inter *Illecebrariam, Lindig.*

S. Schwægricheni nostræ (=*S. Hampeanæ*) proxima; differt: foliis superioribus latioribus, magis pellucidis, nec subula opaca.—*Hampe, l. c.*

2. PLEURIDIUM, Brid. ii. 160.

Musci pusilli. Folia setacea, pallide viridia, nitida. Thecæ teneræ, cartilagineæ, nitentes, inter folia perichætialia fere sessiles; demum fatiscentes. *Habitatio* ad terram nudam.

P. ROBINSONII (*Mont. in Ann. Sc. Nat.* ser. 2. iv. 96, Phascum). Folia appressa, imbricata, inferiora et ramorum sterilium minora, julacea, late ovata, obtusiuscula, marginibus superne minute crebreque crenulatis, nervo percursa; superiora ovalia, concava, nervo latiusculo canaliculato in mucronem subulatum excurrente, marginibus subintegerrimis, cellulis inferioribus elongatis rectangulis, superioribus ovalibus. Theca breviter ovalis, acuta, subsessilis, nitida, fulva. Flos masculus ad caulis pedem, gemmiformis.

Astomum Robinsonii, *C. Müll. in Bot. Zeit.* 1856, 415.

Phascum nervosum, *Sulliv. Musc. U. States,* 16.

Hab. Chili, prope Quillota, *Bertero*; insula Juan Fernandez, *Herb. Montagne.* Brasilia, Monte Video, *Gibert*, n. 713, *Herb. Hooker.*

Caulis 1–2-linearis. Folia straminea, nitida.

This appears to differ from *P. nervosum*, Hook. Musc. Exot. t. 105, in its leaves, more especially those of the perichætium, being shorter and, in proportion, wider. *P. curvulum*, Tayl., from Australia and New Zealand, is nearly intermediate in the form of its leaves. All these species differ in appearance from the European *P. subulatum*, Linn., and *P. alternifolium*, Bruch et Schimp., in having their inferior leaves and those on the barren shoots without the subulate points, closely imbricated in a julaceous manner, with their upper margins minutely crenulate.

Subtribus II. Dicranoideæ.

3. Angstrœmia, Bruch et Schimp. Bryol. Europ. fasc. 33–36.

Plantæ gregariæ, caulibus plus minus elongatis parum divisis. Folia brevia, lata, pellucide areolata, perichætialibus majoribus. Thecæ in pedunculis rectis ovales, operculo subulato, peristomio, si adsit, dentibus rubris.

Theca gymnostoma	1. *A. julacea.*
Theca peristomata.	
Folia caulina late obovata	2. *A. Gayana.*
Folia caulina ovato-lanceolata	3. *A. vulcanica.*

1. A. julacea (*Hook. Musc. Exot.* t. 42; *Schwægr.* t. 206, Gymnostomum). Caulis humilis. Folia late ovata, obtusissima, marginibus crenulatis, nervo sub apice evanido, cellulis omnibus ovalibus rotundatisve; perichætialia majora, ovalia, convoluta, subito in acumen angustum canaliculatum obtusum integerrimum producta, nervo percursa, cellulis ellipticis. Theca in pedunculo elongato, oblonga, operculo subulato obliquo, annulo maximo.

A. andicola, *C. Müll. Syn.* i. 428.

Illecebraria julacea, *Hampe in Ann. Sc. Nat.* ser. 5. iii. 354.

Hab. Andes Quitenses, in Monte Pichincha prope Tablahuma super basaltam, *Humboldt et Bonpland.* Andes Bogotenses, *Lindig,* et inter *Campylopodem Richardi, Weir.*

Caulis 3–4-linearis. Folia nitida, argenteo-viridia. Pedunculus 4-linearis, pallide ruber.

Considered by Hampe generically distinct from *Angstrœmia* on account of the absence of peristome.

2. A. Gayana (*Mont. in Ann. Sc. Nat.* ser. 3. iv. 112, *et in C. Gay, Hist. Chili, Crypt.* t. 2. f. 3, Dicranum). Caulis elongatus, gracilis. Folia late obovata, amplexantia, nervo in acumen breve erecto-patens obscurum obtusum excurrente; perichætialia majora, conformia, convoluta, nervo superne crassiore in acumen longius canaliculatum excurrente, lamina angusta marginata, apice fusca subintegerrima obtusiuscula; omnia marginibus integerrimis, cellulis inferne elongatis, superioribus abbreviatis, apice minoribus rotundatis. Theca in pedunculo rufo, ovalis, operculo oblique subulirostro, thecæ æquilongo, peristomii dentibus dicranis. Folia perigonalia e basi lata tenera convoluta, in acumen longum patens producta.

Hab. Chili australis, *C. Gay.*

Caulis 1–1½-uncialis. Folia lutea, nitida, apicibus rufescentibus. Pedunculus 4-linearis.

The male plant, from the spreading apices of the perigonial leaves, resembles that of *Anisothecium vaginatum.*

3. A. VULCANICA (*Brid.* i. 466, Dicranum). Caulis elongatus, gracilis. Folia ovato-lanceolata, amplexantia, integerrima, superne interdum sinuata, nervo in acumen angustum excurrente, cellulis basilaribus oblongis, superioribus angustioribus ellipticis pellucidis; perichætialia e basi obovata, nervo longissimo excurrente tenui aristiformi acuta. Theca in pedunculo brevi, vix ultra apices foliorum perichætialium exserta, oblonga, operculo acuminato, peristomii dentibus rubris.

D. filiforme, *Schwægr.* t. 122.

Hab. Andes Quitenses, Surruchuco, *Jameson.* Jamaica, *Wilson.*

Caulis 2-uncialis, rigidus. Folia argenteo-lutea, nitida.

Specimens all without fruit, but agreeing in other respects exactly with Beauvais's specimen from the Island of Bourbon in Herb. Hooker.

4. BRACHYODUS, Fürnr.

Musci pusilli, foliis subulatis firmis. *Habitatio* in rupibus umbrosis.

B. FLEXISETUS (*Hampe in Linnæa,* xxxii. 132). Dioicus, gregarius, pulvinatim expansus, humilis, rufo-fuscus. Folia undique imbricata, semper patenti-erecta, parce flexuosa, e basi ovata subito acuminato-subulata, obscuriuscula, integerrima, nervo obscuro superne in subulam conflato indistincto, cellulis basilaribus subquadratis diaphanis, in subula condensatis granulatis opacis, seta flexuosa adscendente vel incurva flavescente. Theca ovato-elliptica, humida, flavescens, operculo subulato recto dimidiam thecam metiente, calyptra mitrata conica subulata basi 9–10-lobata tertiam partem thecæ vix attingente, peristomii dentibus erectis brevibus solidioribus discretis coloratis annulo cinctis.—*Hampe, l. c.*

Hab. Andes Bogotenses, La Penna, ad saxa riparia (2900 met.), *Lindig.*

Hæc species a nostra Europæa (*B. trichode,* Fürnr.) facile discernenda est habitu aliquid majore, theca in seta flexuosa semper striata, peristomio magis evoluto, calyptra magis lobata.—*Hampe, l. c.*

5. DICRANELLA, C. Müll. Syn. i. 430 (*Seligeriæ* sect.).

Musci pusilli, graciles. Folia angusta, inferne laxe areolata, siccitate appressa, perichætialia inferne longiora. Thecæ in pedunculo gracili recto, interdum arcuato, operculo subulato-acuminato, peristomii dentibus breviusculis. Florescentia dioica, rarius monoica. *Habitatio* in terra, etiam ad rupes.

Pedunculus erectus.
  Theca æqualis.
    Folia apice obtusiuscula.
      Folia erecto-patentia, incurva, subulata 1. *D. exigua.*
      Folia patula, incurva, lineari-subulata . . 2. *D. tenuirostris.*

Folia apresse imbricata, lanceolato-subacuminata.
3. *D. Lindigiana.*
Folia erecto-patentia, anguste lanceolata. 4. *D. longirostris.*
Folia patentia, subcrispata, oblongo-linguæformia.
5. *D. Hilariana.*
Folia erecto-patentia, lanceolato-ligulata. 6. *D. pusilla.*
Folia patentia, lanceolata .... 7. *D. Pabstiana.*
Folia patentia vel subsecunda, lanceolato-subflexuosa.
8. *D. Liebmanniana.*
Folia apice acuta.
Folia inferne amplexicaulia.
Folia patentia, stricta, siccitate crispula 9. *D. Tovariensis.*
Folia divergentia, curvata .... 10. *D. Guilleminiana.*
Folia squarroso-patentia, siccitate flexuosa.
11. *D. consimilis.*
Folia inferne haud amplexicaulia. Folia undique æqualia.
Folia patentia, incurva, subulata, apice latiuscule acuta.
12. *D. luteola.*
Folia patula, a basi latiore lineari-subulata.
13. *D. muralis.*
Folia erecto-patentia, lanceolato-subulata.
14. *D. elata.*
Folia flexuosa, subvaginantia, lanceolato-subulata, linearia.
15. *D. Kunzeana.*
Folia erecto-patula, laxe imbricata, a basi latiore brevi ovata, lanceolato-subulata . ... 16. *D. ditissima.*
Folia patenti-subsecunda, lanceolato-subulata.
17. *D. brachyblepharis.*
Folia patenti-subsecunda, a basi latiore subvaginante lineari-subulata.......................... 18. *D. microdonta.*
Folia patenti-inflexa, a basi oblonga, subulata.
19. *D. euchlora.*
Folia secunda, a basi longe angusteque subulata.
20. *D. angustifolia.*
Theca inæqualis.
Folia comalia haud secunda.
Folia erecto-patentia, late lanceolata, longe subulata.
21. *D. Perrottetii.*
Folia erecta, appressa, a basi ovata concava subulata.
22. *D. bicolor.*
Folia erecta, appressa, a basi ovali subito subulata.
23. *D. aulacocarpa.*
Folia patentia, lanceolato-subulata .... 24. *D. densa.*
Folia patentia, a basi lata sublanceolata longe subulato-attenuata.
25. *D. strumulosa.*

Folia superiora erecto-patentia, a basi obovata latiore sensim subulata .... 26. *D. callosa.*

Folia erecto-patentia, subsecunda, sensim subulato-attenuata. 27. *D. Guadelupensis.*

Folia comalia secunda.

Folia erecta, ovato-lanceolato-subulata.. 28. *D. Bogotensis.*

Folia patentia, lanceolato-subulata...... 29. *D. compacta.*

Folia erecto-patentia, a basi truncata sensim subulato-angustata. 30. *D. heteromalla.*

Pedunculus curvatus .... 31. *D. curviseta.*

1. D. EXIGUA (*Schwægr.* t. 179, Weissia). Caulis brevis. Folia nervo latiusculo sub apice evanido carinata, marginibus incurvis, cellulis basi elongatis, superioribus obscurioribus oblongis; perichætialia longiora, a basi elliptica longe anguste toriformi-subulata, apicibus ut in caulinis obtusiusculis. Theca in pedunculo gracili, ovalis, erecta, operculo subulato obliquo.

Dicranum debile, *Hook. et Wils. in Drumm. Musc. S. States,* 51 et 52.

D. parvulum, *Hornsch. in Mart. Fl. Bras. Musc.* 14.

Hab. Ins. Sancti Vincentis, *Parker*; Trinidad, *Black*; Cuba, *Wright*, n. 34. Fl. Negro ad urbem Manaos, *Spruce*, n. 43 *b*. Andes Peruvianæ, Tarapoto (1500 ped.), *Spruce*, n. 43. Fl. Amazon, Santarem; fl. Uaupés, Panuré ad muros ecclesiæ. Andes Quitenses, fl. Bombonasa (1200 ped.), *Spruce*, n. 39. Brasilia, in Serra d'Estrella, *Beyrich*; Rio de Janeiro et Minas Geraes, *Martius*; Corcovado, *Gardner*, n. 19.

2. D. TENUIROSTRIS (*Kunze in Pœpp. Pl. Chil.*; *Schwægr.* t. 308, Dicranum). Humilis. Folia superne latiuscula, apice obtusa, integerrima, marginibus planis, nervo crassiusculo sub apice evanido carinata; perichætialia inferne parum latiora, conformia. Theca in pedunculo gracili, ovalis, erecta, operculo subulato, peristomii dentibus rubris dicranis.

Hab. Guiana, *Leprieur, ex Herb. Montagne, Parker in Herb. Hooker.*

Caulis linearis. Folia luteo-viridia. Pedunculus 2-linearis, luteus.

3. D. LINDIGIANA (*Hampe in Ann. Sc. Nat.* ser. 5. iii. 353, Angstrœmia). Humilis, gracilis. Folia nervo crassiusculo percurrente carinata, margine superne uno latere recurva, cellulis basilaribus oblongis, superioribus abbreviatis obscuris; perichætialia subula lineari obtusiuscula carinata, longiora. Theca in pedunculo pallido, globoso-ovata, erecta, ore parvo, "peristomii dentibus brevibus lanceolato-subulatis integris croceis, operculo brevi subulato obliquo."

Hab. Andes Bogotenses, Socorro et Pic de Cuesta (1200–1400 metr.), in umbrosis convallium "Barrancas" dictarum, *Lindig.*

Caulis 2-linearis. Folia $\frac{1}{3}$ lineam longa, pallide viridia, humida siccaque erecta appressa. Pedunculus 3-linearis. Theca rufo-fusca.

4. D. LONGIROSTRIS (*Schwægr.*, Dicranum). Caulis humilis. Folia

nervo crassiusculo sub apice evanido carinata, marginibus erectis integerrimis, cellulis superne oblongis obscurioribus; perichætialia elliptica, convoluta, anguste subulata, apicibus obtusiusculis. Theca in pedunculo gracili, ovalis, rufa, subæqualis, erecta, operculo subulato, peristomio parvo, dentibus brevibus pallidis dicranis.

Hab. Guadelupe, in monte sulphurifero (4000 ped.), *Richard, Parker et Guilding*. Brasilia, Parahybuna, *Gardner*, n. 19.

Caulis 2–3 lineas altus. Folia ½ lineam longa, luteo-fusca. Pedunculus sub 3-linearis, rufus.

Gardner's specimens, n. 19, do not appear to differ from those from Guadelupe.

5. D. HILARIANA (*Mont. in Ann. Sc. Nat.* ser. 2. xii. 52, t. 1. f. 2, Dicranum). "Cæspitulosa, humillima, subsimplex, basi innovando divisa. Folia caulina plicato-flexuosa, apice suberosa, basi e cellulis laxis elongatis teneris flavide pellucidis, superne minutis et minutissimis pellucidis areolata, nervo canaliculato angusto flavo flexuoso crassiusculo ante apicem evanido; perichætialia distincte obtusa. Theca in pedunculo brevi, ovalis, brunnescens, minuta, sicca cylindrica, operculo longe et oblique subulato; peristomii dentes inflexi, rubri, ad medium usque bifidi, cruribus tenuissimis hyalinis longis subrugulosis."—*C. Müll. Syn.* i. 442.

Hab. Brasilia meridionalis ad terram, *Herb. Montagne.*

From the description, this appears to be very near to *D. longirostris*, if not, indeed, identical.

6. D. PUSILLA (*Hampe in Ann. Sc. Nat.* ser. 5. iii. 358, Angstrœmia). Caulis brevissimus. Folia margine superne recurva revolutave, apice subcrenulata, nervo crassiusculo percurrente carinata, cellulis basilaribus elongate oblongis pellucidioribus, superioribus abbreviatis rotundis obscuris. Pedunculus brevis, luteo-viridis. Theca ovalis, erecta, operculo rostrato, "peristomii dentibus lanceolato-subulatis tenerrimis, basi croceis, apice pallidioribus fere usque ad basin divisis."

Hab. Andes Bogotenses, Pic de Cuesta (1200 metr.) in convallibus "Barrancas," *Lindig.*

Caulis ½ lineam altus. Folia viridia ½-linearia. Pedunculus 1½ lineam longus. Theca rufo-fusca.

7. D. PABSTIANA (*C. Müll. in Bot. Zeit.* 1857, 380, Angstrœmia). Caulis brevis. Folia densiuscula, superiora lanceolato-subulata; perichætialia inferne elliptica, superne subulata; omnia apicibus obtusiusculis subintegerrimis, nervo sub summo apice evanido carinatis, marginibus medio revolutis, cellulis basi elongatis, superioribus minutis oblongis obscurioribus. Theca in pedunculo breviusculo, oblongo-cylindracea, erecta, operculo subulato, peristomii dentibus rubris dicranis.

Hab. Brasilia, Santa Catharina, *Pabst ex Herb. C. Müller.*

Very nearly resembling *D. longirostris*, but remote from *D. Guilleminiana*, the leaves having no vaginant base.

8. D. **Liebmanniana** (*C. Müll. Syn.* ii. 605, Angstrœmia). Humilis, subsimplex, tenera, dense foliosa. Folia siccitate leviter torta, mollia, pallide viridia, inferiora lanceolata, superiora lineari-lanceolata, comalia longiora; perichætialia his similia; omnia obtusiuscula vel obtusa, apice denticulata, canaliculata, nervo laxo sub apice evanido, cellulis superioribus rectangulis, inferioribus rhombeis hyalinis. Theca erecta vel obliqua, collo defluente, operculo longirostro, annulo duplici lato revolubili; peristomii dentes infra medium bifidi, dense articulati, linea divisurali nulla, sicci incurvi, aurantiaci, liberi, nunquam contorti; sporæ majusculæ.—*C. Müll. l. c.*

Hab. Mexico, prope Mirador, *Liebmann.*

9. D. **Tovariensis** (*C. Müll. Syn.* i. 443, Angstrœmia). "Laxe cæspitosa, elatiuscula, erecta, apice densius comosa, ad perichætium innovatione elongata gracillima remotifolia, viridis. Folia caulina e basi vaginante dense longiuscule anguste incrassate firme difficile emolliente et viridi-areolata, subito canaliculato-subulata, acutiuscula integerrima, nervo latiusculo concolori subulam superam totam occupante; perichætialia latius vaginantia, basi laxius pellucidius et tenuius, superne rhomboideo-, ad subulam inferam minutissime incrassate reticulata. Theca in pedunculo longiusculo stricto purpureo, ovalis, parva, annulata, coriacea, operculo longe et oblique subulato; peristomii dentes angusti, purpurei, ad medium bifidi, cruribus conniventibus scaberrimis ferrugineis."

Dicranum Perrottetii, *C. Müll. in Linnæa,* xix. 206.

Hab. Columbia, Tovar (5000 ped.), *Moritz.*

"Planta mascula multo gracilior et ad perigonium innovatione gracillima; folia perigonialia e basi lato-convoluta superne valdè sinuata elongate angustissime et tenero-areolata colorata subulata."—*C. Müll. l. c.*

10. D. **Guilleminiana** (*Mont. in Ann. Sc. Nat.* ser. 2. xvi. 267, Dicranum). Caulis humilis. Folia densiuscula, a basi erecta superne dilatata, alis amplexantibus, subito subulata, angusta, marginibus ad basin partis subulatæ undulatis, inde anguste recurvis, apice tenuissime acuto denticulatis, nervo angusto concolori carinata, cellulis basi elongatis angustis, superioribus parvis oblongis obscuris; perichætialia basi longius vaginantia, apicibus divergentibus. Theca in pedunculo recto, oblongo-cylindracea, erecta, operculo subulato, peristomii dentibus aurantiacis dicranis longitudinaliter striatulis.

Hab. Insula Cuba, *Wright,* n. 36. Brasilia, *Herb. Montagne*; in monte Corcovado, *Gardner*; in prov. San Paulo, in sylvis prope Itu (2200 ped.), *Weir,* n. 32.

Caulis ½–1-uncialis. Folia luteo-viridia. Pedunculus ½-uncialis.

11. D. **consimilis** (*Hampe in Ann. Sc. Nat.* ser. 5. v. 336, Angstrœmia). Pusilla, sordide viridis; caule e centro prolifero parce ramosa. Folia a basi cuneata obovata subito canaliculato-subulata, parum falcata, vix apice dentata, nervo lato percursa subulam fere totam occupante;

cellulis in lamina laxioribus pentagono-rhomboideis, nodulis lutescentibus clausis flavescenti-diaphanis, in subula congestis, elongatis, opacis. Seta basi obvoluta, gracilis, erecta, lutescens, apice parum incrassata. Theca erecta, junior elliptica deoperculata, anguste ovata, nec strumulosa, operculo conico oblique rostrato thecam dimidiam superante concolori, peristomii dentibus lanceolatis, brevioribus, croceis, usque infra medium partitis, laciniis subulatis pallescentibus.—*Hampe, l. c.*

Hab. Andes Bogotenses, Tequendama (2500 metr.), *Lindig.*

Compared by Hampe to *D. Schreberi*; but that has a far different capsule.

12. D. LUTEOLA (*Mitt.*). Caulis brevis. Folia superiora perichætialiaque longiora lineari-subulata, nervo percurrente sub summo apice evanido, marginibus anguste recurvis apice denticulatis, cellulis oblongis pellucidis. Theca in pedunculo gracili luteo, ovali-cylindracea, erecta, operculo subulato obliquo, peristomio breviusculo, dentibus pallidis dicranis.

Hab. Andes Quitenses, in sylva Canelos, loco Pueblo de Los Libaros (3000 ped.), *Spruce*, n. 44.

D. tenuirostri affinis, foliorum autem apicibus denticulatis, et theca rufescente diversa.

13. D. MURALIS (*Hampe in Ann. Sc. Nat.* ser. 5. iii. 357, Angstrœmia). Monoica, humilis, cæspitosa, ramosa, rufescens; caulis basi adaucto-ramosus, dense foliatus, brevis. Folia circa flexuoso-crispata, basi concava, superne carinata, nervo flavescente ante apicem evanido, cellulis inferioribus laxis pellucidis, interstitiis tenuioribus noduloso-clausis, intermediis minoribus noduloso-punctatis in acumine folii confluentibus, lutescenti-diaphana; folia perichætialia basi latiora, pellucida, interiora majora, apice parce dentata. Seta ad basin aperta, pallide flavescens, erecta, 3–4-linearis, apice parce incrassata. Theca parvula ovata, vetusta elliptico-cylindrica, sub ore contracta, operculo curvirostro, pallido, peristomio annulo maximo circumdato, dentibus lanceolatis basi aurantiacis usque infra medium divisis, cruribus teneris subulatis elongatis pallidis.

Hab. Andes Bogotenses, Pacho (1900 metr.) ad muros, *Lindig.*

Angstr. tenuirostræ, C. Müll., affinis, sed minor, rufescens, cellularum interstitiis tenuioribus, et peristomio aurantiaco, dentibus brevioribus differt.—*Hampe, l. c.*

14. D. ELATA (*Schimp. in Lechler, Pl. Peruv.*). Caulis elongatus, gracilis. Folia parva, angustata, nervo crassiusculo ubique a lamina distincto carinata, marginibus erectis anguste reflexisve apice subserrulatis, cellulis inferioribus elongatis, superioribus sensim brevioribus suboblongis obscuriusculis; perichætialia longiora, inferne elliptica convoluta, inde anguste subulata, carinata, apicibus acutis obtusisve subcrenulatis. Theca in pedunculo flexuoso, ovalis, erecta, operculo subulato obliquo, peristomii dentibus ad medium dicranis.

Hab. Fl. Amazon, in præruptis secus Obidos. Andes Quitenses, in sylva Canelos (3000 ped.), *Spruce*, n. 41. Peruvia, prope San Govan in rupibus humidis, *Lechler*, n. 2280.

Caulis 1–1½-uncialis, gracilis. Folia remotiuscula, viridia, fuscescentia, sicca parum mutata. Pedunculus 3–4-linearis.

15. D. KUNZEANA (*C. Müll. Syn.* i. 421, Seligeria). "Dioica, gregaria, cæspitosa, gracillima, tenuis, erecta v. adscendens, subhumilis, apice innovando-ramosa, innovationibus filiformibus. Folia caulina basi subvaginantia, lanceolata oblonga vel ovata, acuta, angusta, plicato-concava, canaliculata, nervo crassiusculo subexcurrente, margine parum recurva; perichætialia angustiora obtusiuscula evanidinervia; omnia undique e cellulis parvis pellucidis quadrato-rhombeis subangustis reticulata. Theca in pedunculo longiusculo tenuissimo erecto pallido, erecta, urceolato-ovalis, annulata, parva, brunnescens, operculo longe et oblique subulato; peristomii dentes breves, lanceolato-lineares, acuti, tenuissime trabeculati, rugulosi, ferruginei, interdum subpertusi."—*C. Müll. l. c.*

Hab. Chili et Peru ad Chuchero, *Pœppig*; etiam in America centrali, Costa Rica, *Œrsted.*

Flos masculus pro plantulæ exiguitate crasse gemmaceus.—*C. Müll. l. c.*

16. D. DITISSIMA (*Hampe in Linnæa,* xxxii. 134, Angstrœmia). Dense aggregata, contigua, intense rufescens aureo-micans, ditissime fructifera; caulis gracilis, basi simplex, superne innovationibus brevibus auctus, undique foliatus erectus. Folia superiora longiora, innovationum homomalla, canaliculata, integerrima, nervo lato ad basin tertiam partem folii, subulam vero totam occupante, lutescente, cellulis basilaribus angustis, interstitiis parce nodulosis aureo-splendentibus; fere tota intense lutescentia. Seta brevis, erecta. Theca ovata, erecta, minime callosa; operculo oblique rostrato thecæ longitudine vel paulo breviore; dentibus peristomii angustioribus profunde bifidis basi purpurascentibus apice pallidis.

Hab. Nova Granata, in sylvis Manzanos in convallibus "Barrancas" (2800 metr.), *Lindig.*

Maxime fertilis, thecis onusta. *D. elatæ* Schimp. affinis.—*Hampe, l. c.*

17. D. BRACHYBLEPHARIS (*C. Müll. Syn.* i. 435, Angstrœmia). Caulis humilis. Folia inferiora angusta, nervo crassiusculo percurrente ubique a lamina cernendo, cellulis omnibus elongatis angustis, integerrima; perichætialia longiora, basi breviter oblonga, convoluta, subito subulata. Theca in pedunculo breviusculo, oblongo-cylindracea, erecta, operculo subulato; "peristomii dentes brevissimi profunde et irregulariter bifidi purpurei, cruribus brevibus strictis subhyalinis."

Hab. Mexico; Xalapa, *Deppe et Schiede*, n. 1071 (sub nom. *Dicrani curvati*).

Caulis 3-linearis. Folia viridia. Pedunculus 3-linearis.

18. D. MICRODONTA (*Schimp., C. Müll. Syn.* ii. 606, Angstrœmia).

Altior, ramosa, ramis subfastigiatis fertilibus. Folia canaliculata, nervo excurrente. Theca erecta, oviformis, pachyderma, collo subnullo, operculo longirostro, annulo duplici fragmentarie secedente; peristomii dentes breves, ad medium in crura duo subæqualia divisi, fugacissimi.—*C. Müll. l. c.*

Hab. Mexico, prope Mirador in terra argillosa, *Liebmann.*

19. D. EUCHLORA (*Mont. in Ann. Sc. Nat.* ser. 3. iv. 112, Dicranum). Monoica, pumila, cæspitosa, innovando-ramosa. Folia caulina canaliculata, siccitate flexuosa, margine tenuissime denticulata, nervo mediocri ad apicem continuo; perichætialia conformia basi ampliore vaginantia. Theca nutans, oblonga, paucistriata, obsolete strumulosa, operculo conico oblique rostrato thecam dimidiam superante.—*C. Müll. Syn.* i. 442, Angstrœmia.

Hab. Chili, ad terram et in ramulis dejectis, *C. Gay.*

20. D. ANGUSTIFOLIA (*Mitt.*). Cæspitosa, humilis. Folia falcato-secunda, marginibus integerrimis inferne anguste recurvis, nervo fere ad apicem acutam a pagina cernendo, cellulis oblongis basi latioribus superne angustioribus obscurioribus; perichætialia a basi latiore subquadrata longe tenuiter subulata, nervo subulam fere totam occupante. Theca in pedunculo stricto vel infra thecæ collum curvato, ovalis, operculo oblique subulato, peristomii dentibus rubris dicranis minutissime papillosis.

Hab. Andes Bogotenses, in sylva supra Pacho (6000 ped.) ad viam, *Weir*, n. 138. Andes Quitenses, in sylva Canelos, *Spruce*, n. 38 *b*.

Caulis ½-unciam altus. Folia viridia. Pedunculus longitudine 3-linearis.

D. brachyblephari simillima; theca autem brevior, magis ovalis; folia a basi ad insertionem lata, exinde subulata nec lanceolato-subulata.

21. D. PERROTTETII (*Mont. in Ann. Sc. Nat.* ser. 2. xix. 241, Dicranum). Caulis elongatus, gracilis. Folia nervo basi latitudinis ⅛ occupante, in subula a lamina vix distincto, cellulis elongatis laxis; perichætialia longiora, inferne obovata laxe convoluta, subulata. Theca in pedunculo pallido, globoso-ovalis, inclinata, operculo subulato, peristomii dentibus rubris dicranis, apicibus angustis minutissime punctulatis.

Dicranum sclerocarpum, *Hook. et Wils. in Lond. Journ. Bot.* 1847, 291, t. 11.

Hab. Ins. Martinique, *Perrottet ex herb. Montagne*; Trinidad, *Black.* Nova Granata, *Purdie,* ad viam inter Marta et Bucaramanga (6000 ped.), *Weir*, n. 393.

Caulis ½-uncialis. Folia lutea fuscescentia. Pedunculus 3-linearis.

22. D. BICOLOR (*C. Müll. Syn.* i. 444, Angstrœmia). Densissime et late cæspitosa sed laxe cohærens, inferne lutescens, superne amœne viridis, erecta, humilis, gracilis, apice elongato-attenuata, capillaris, basi divisa, ad perichætiam innovatione gracillima tenuissima, mollis. Folia caulina e cellulis subquadratis subparvis densiusculis flavidis ad subulam

minoribus plus minus incrassatis reticulata, canaliculata, acuta, nervo flavo crassiusculo subulam superam totam occupante, integerrima, basi longiore subvaginante. Theca in pedunculo tenui longiusculo flexuoso brunnescente, erecta, suburceolato-ovalis, parum gibbosa, brunnea, striata, annulata, operculo conico-subulato obliquo cum calyptra deciduo; peristomii dentes breves, ad medium fissi, pallide ferruginei, cruribus hyalinis lævibus.

Hab. Columbia, Tovar (5500 ped.), *Moritz*, n. 21 *b*.

D. densæ proxima.—*C. Müll. l. c.*

23. D. AULACOCARPA (*Mont. in Ann. Sc. Nat.* ser. 3.iv. 113, Dicranum). Caulis elongatus. Folia integerrima, nervo subulam fere totam occupante concavo, cellulis angustis elongatis sensim magis in basi dilatata ampliatis; perichætialia a basi abbreviata, arcte convoluta, subito longe subulata. Theca in pedunculo brevi, oblongo-cylindracea, plicata, basi subcallosa, operculo oblique subulato, peristomii dentibus dicranis.

Hab. Chile, *C. Gay*; ins. Chiloe, *Lobb.*

Caulis ½-unciam altus. Folia luteo-viridia. Pedunculus longitudine 2-linearis.

24. D. DENSA (*Hook. Musc. Exot.* t. 140, Dicranum). Caulis elongatus. Folia integerrima, nervo crassiusculo percurrente carinata, cellulis omnibus parvis elongatis angustis; perichætialia inferne elliptica convoluta, superne subulata, apicibus angustis obtusiusculis subdenticulatis. Theca in pedunculo gracili, ovalis, inclinata, operculo subulato, peristomii dentibus brevibus dicranis.

Hab. Andes Novæ Granatæ, in monte Quindiu reg. temp., *Humboldt et Bonpland.* Andes Quitenses ad cataractam Agoyan, *Spruce*, n. 42. Andes Peruvianæ in monte Guayrapurina (3000 ped.), *Spruce*, n. 38.

The nerve in this species, as in most of its allies, is not excurrent, but ends just below the rounded apex of the leaf.

25. D. STRUMULOSA (*Hampe in Linn.* xxxii. 133, Angstrœmia). Caulis elongatus. Folia nervo crasso basi tertiam partem, superne totum folii latitudinis occupante, cellulis basilaribus parvis oblongis rectangulis; perichætialia a basi oblonga convoluta, nervo longe excurrente angusto, secunda. Theca in pedunculo elongato pallido, ovalis, erecta, basi oreque subinæqualis, operculo longirostro, peristomii dentibus dicranis.

Hab. Andes Bogotenses, in sylvis Manzanos in convallibus "Barrancas" dictis (2700 metr.), *Lindig.*

Caulis ½–1-uncialis. Folia lineam longa, viridia, sparsa. Pedunculus 1-linearis. Theca nigrescens, subplicata, vix strumulosa.

26. D. CALLOSA (*Hampe in Linnæa*, xxxii. 134, Angstrœmia). Dioica, dense cæspitosa, rufo-fusca; caulis erectus, gracilis, elongatus, subsimplex, apice parce innovationibus auctus, basi fuscus, superne rufescens. Folia undique laxe disposita, inferiora basi amplectente patula, integerrima, subula canaliculata, cellulis basilaribus anguste elongato-quadratis

interstitiis tenuioribus receptis flavescenti-diaphanis, intermediis brevioribus, summis cum nervo conflatis opacis. Seta erecta, mediocris, fere uncialis, fuscescens. Theca curvata, adscendens, obovata, obliqua, basi callosa, operculo crasso conico acuminato recto, peristomii dentibus inflexis, apice bifidis.

Hab. Nova Granata, in locis humidis umbrosis, Sinche Salto (2600 met.), *Lindig.*

D. strumulosæ habitu similis, differt foliis patulis, seta longiore, theca magis inclinata et operculo brevi.—*Hampe, l. c.*

27. D. GUADELUPENSIS (*Mitt.*). Caulis compacte cæspitosus, elongatus, gracilis. Folia nervo obscuriusculo basis latitudinis $\frac{2}{4}$ occupante, superne a lamina indistincto canaliculato integerrimo, cellulis oblongis pellucidis; perichætialia longiora, inferne elongate obovata, convoluta. Theca in pedunculo pallido, ovalis, gibba, inclinata, operculo obliquo subulato, collo strumoso.

Hab. Ins. Guadelupe, *Parker* et *Perrottet.*

Caulis $\frac{1}{2}$–1-uncialis. Folia fuscescentia. Pedunculus 4-linearis.

28. D. BOGOTENSIS (*Hampe in Ann. Sc. Nat.* ser. 5. iii. 357, Angstrœmia). Humilis, subsimplex, rufo-fusca; caulis basi attenuatus, inferne remote, superne densius foliatus, parce incrassatus. Folia subula canaliculata integerrima, nervo valido fusco percursa subulam fere totam occupante, cellulis pentagono-ellipticis, interstitiis noduloso-clausis, rufescenti-diaphanis. Seta rubens, caulem superans. Theca parvula, ovata, oblique adscendens, peristomii dentibus crassis brevibus, apice divisis inflexis cruentis; operculo nullo.

Hab. Andes Bogotenses, Bogota (2800 metr.) in convallibus "Barrancas" dictis, *Lindig.*

Angstrœmiæ rufescenti (Europææ) affinis; differt foliis firmioribus et rigidioribus, subula angustiore, cellulis angustioribus, magis nodulosis et theca obliqua nec recta.—*Hampe, l. c.*

29. D. COMPACTA (*Schimp., C. Müll. Syn.* ii. 606, Angstrœmia). Dioica, dense aggregata et pulvinata cæspitosa, gracilescens, inferne venoso-rubella, superne pallide viridis, radiculis superioribus teneris pallidis, minus ramosa, nunquam tomentosa. Folia *D. densæ*, sed pallidiora, ad caulis apicem subsecunda, siccitate flexuosa; perichætialia cæteris similia, majora, basi semivaginante longiore. Theca *D. densæ* in pedunculo stramineo flexuoso semiuncia breviore, cernua, incurva, pallide aurantiaca, collo brevi defluente, annulo lato, operculo oblique rostellato aurantiaco; peristomio *D. densæ.*—*C. Müll. l. c.*

Hab. Mexico, Santa Gertruda, Taleo, *Liebmann.*

30. D. HETEROMALLA (*Dill., Hedw. Musc. Frond.* t. 26, Bryum). Humilis, cæspitosa. Folia nervo lato basi tertiam partem supra medium totam folii latitudinem occupante, apice minute serrulato, cellulis

parvis oblongis; perichætialia a basi brevi parva, rotundata, nervo excurrente longe subulata. Pedunculus flexuosus. Theca ovalis, inclinata, operculo rostrato, peristomii dentibus brevibus rubris dicranis.

Angstrœmia crassinervis, *Hampe in Linnæa*, xxxii. 133.

Hab. Andes Bogotenses, in sylvis Manzanos in convallibus "Barrancas" dictis (2700 metr.), *Lindig.*

Caulis ¼–1-unciam altus, gracilis. Folia lineam longa, viridia, lutescentia, sicca parum mutata subnitida. Pedunculus ½–1-uncialis, pallidus. Theca fusca, dein rufescens, evacua plicata.

31. D. CURVISETA (*Hampe in Ann. Sc. Nat.* ser. 5. iii. 355, Angstrœmia). Pusilla, gracilis, rufescens; caulis humilis, laxe foliatus, erectus, simplex. Folia undique erecto-patentia, e basi concava subvaginante lanceolato-subulata, canaliculata, integerrima, nervo rufescente percursa subulam totam occupante; superiora longiora, e basi obovata latiore subito canaliculato-subulata, cellulis basilaribus elongato-quadratis lutescenti-diaphanis, nodulis splendentibus clausis, versus apicem folii sensim minoribus et in subula striatis, fere opacis. Seta primo deflexo-curvata, flavescens, tandem flexuoso-adscendens. Theca breviter elliptico-ovata, operculo tenui subulato, peristomii dentibus brevibus profunde divisis, valde trabeculatis, sanguineis, apice pallidioribus; calyptra basi truncata.

Hab. Andes Bogotenses (2500 metr.), *Lindig.*

Angstrœmiæ euphorocladæ C. Müll. affinis, sed diversa.—*Hampe, l. c.*

6. SPHÆROTHECIUM, Hampe in Ann. Sc. Nat. ser. 5. iii. 361.

Peristomium simplex, minutissimum, dentibus brevibus 16 angustis simplicibus, annulo maximo protuberante circumdatis. *Habitatio* terrestris vel rupestris.

S. COMOSUM (*Hampe, l. c.*). Dioicum, laxe cæspitosum, humile, phascoideum; caulis erectus, basi attenuatus, fuscus, superne incrassatus, comoso-ramosus, rigidus, viridis. Folia stricta, lanceolato-subulata, canaliculata, apice subdenticulata, comalia latiora et longiora, nervo lutescenti-dilatato striato ad basin tertiam partem folii, subulam vero fere totam occupante, cellulis alaribus angulato-rotundatis incrassatis fusco-luteis subopacis, lateralibus subquadratis, versus apicem folii ovalibus sensim minoribus, flavescenti-pellucidis, in subula condensatis subopacis. Seta brevis, incurvata. Theca parva, subrotunda, recondita vel parum exserta, operculo minutissimo apiculato obtuso.

Thysanomitrium phascoides, *Hampe in Linnæa*, xxxii. 136.

Hab. Andes Bogotenses, Los Laches (2800 metr.) ad terram, *Lindig.*

Var. elatius, unciale, coma longiore. Bogota, Cipaquira (2600 metr.), *Lindig.*

Campylopodem nanum æmulans, peristomii indole magis *Blindiis* affine. —*Hampe, l. c.*

7. ANISOTHECIUM, gen. nov.

Musci gregarii, caulibus parum divisis. Folia angusta, vix nitida, submollia, pellucide areolata; perichætialia parum diversiformia. Thecæ in pedunculo valido elongato, firmæ, operculo rostrato, peristomio dentibus validis latiusculis. Florescentia dioica vel monoica. *Habitatio* ad terram humidam.

Foliorum basis dilatata inter folia conspicua	1. *A. vaginatum.*
Foliorum basis dilatata inter folia inconspicua.	
Folia integerrima, acuta, patentia	2. *A. Jamesoni.*
Folia integerrima, acuta, falcata..............	3. *A. planinervium.*
Folia integerrima, obtusa	4. *A. convolutum.*
Folia margine scabra	5. *A. campylophyllum.*
Foliorum basis haud vaginans	6. *A. varium.*

1. A. VAGINATUM (*Hook. Musc. Exot.* t. 141, Dicranum). Gregarie cæspitosum; caule elongato. Folia remotiuscula, a basi late obovata, erecta, caulem vagina arctissime amplexantia, apice recurva, subulata, canaliculata, obtusiuscula, patentia vel incurva, nervo percursa, margine apicem versus denticulis erosa, cellulis superioribus parvis rotundatis oblongisque obscuriusculis in parte vaginante elongatis pellucidis; perichætialia basi longius vaginantia, apicibus erectioribus. Theca in pedunculo elongato flexuoso rubro, oblonga, operculo æquilongo subulato, peristomii dentibus rubris granulosis irregulariter divisis. Planta mascula caule elongato infra flores gemmaceos iterum iterumque continuata.

Hab. In convallibus Andium Granatensium inter Almaguar et Pasto, alt. 1200–1500 hexap., *Humboldt et Bonpland.* Andes Bogotenses, Boqueron prope Bogota in declivibus lapidosis (8600 ped.), *Weir*, n. 296; in ascensu a Paramo ad Choachi, *Weir*, n. 362. Andes Quitenses, Quito in aggeribus humidis (9500 ped.), etiam ad fl. Pastasa infra Banos (5500 ped.), *Spruce*, n. 36.

Caulis $\frac{1}{2}$–$1\frac{1}{2}$-unciam altus, simplex vel furcatus. Folia lineam longa, in parte vaginante pallida, in parte superiore sordide obscureque viridia. Pedunculus $\frac{1}{2}$-unciam altus. Theca lineam brevior. Species ob folia remota arcte vaginantia distinctissima.

2. A. JAMESONI (*Tayl. in Hook. Lond. Journ.* vi. 332, Dicranum). Cæspitosum; caule elongato. Folia laxe inserta, e basi brevi erectiore subquadrata, cellulis elongatis laxiusculis pellucidis, subito in subulam patentem elongatam obscuram contracta, nervo in subula a folii lamina indistincto, integerrima; perichætialia basi latiora, duplo longiora, obovata. Theca in pedunculo rubro elongato, oblonga, inclinata, operculo subulato.

Angstrœmia Hookeri, *C. Müll. Syn.* ii. 607.

Hab. Andes Quitenses, *Jameson*, n. 13, loco Huambató in palude (9000 ped.), *Spruce*, n. 34. Andes Bogotenses, *Weir.* Fuegia, in fretu Magellan, "Sandy Point," ad rivulos, *Lechler*, n. 1116; Hermite Island, *Hooker.*

Caulis ½–1½-uncialis. Folia fulva. Pedunculus subuncialis.

3. A. PLANINERVIUM (*Tayl. in Hook. Lond. Journ.* vii. 281, Dicranum). "Caule cæspitoso, subsimplici; foliis imbricatis secundis apice falcatis, ex lata triangulari basi lineari-subulatis, integerrimis, nervo latissimo percursis; capsula inclinata, ovata; operculo brevirostro."

Hab. Andes Quitenses, Pichincha, *Jameson.*

"Tufts about one inch high, light green above, brownish beneath. Leaves scarcely amplexicaul, their nerve often indistinct, always filling up the acuminated parts. Peristome of sixteen bifid, barred teeth, whose segments are alternately unequal."—*Tayl. l. c.*

4. A. CONVOLUTUM (*Hampe in Ann. Sc. Nat.* ser. 5. v. 336, Angstrœmia). Monoicum, humile, rufescenti-viride; caulis brevis, simplex, e basi attenuata ramoso-foliatus, ramo masculo gracili e centro producto adauctus. Folia pauca, undique patula, e basi latiore vaginante lanceolato-subulata, canaliculata, obtusa, sicca convoluta, integerrima, nervo percursa subulam totam occupante, parum flexuosa. Seta caulem superans, gracilis, erecta, rufescens. Theca parva, adscendenti-horizontalis, ovata, ore aperto; peristomii dentibus profunde divisis cruentis.—*Hampe, l. c.*

Hab. Andes Bogotenses, Cipacon, *Lindig.*

A. vaginatæ et *A. acerosæ* affinis, sed multo minor.—*Hampe, l. c.*

5. A. CAMPYLOPHYLLUM (*Tayl. in Hook. Lond. Journ.* vii. 281, Dicranum). Cæspitosum, caule elongato. Folia e basi brevi caulem amplexante, cellulis inferioribus angustis elongatis, superioribus abbreviatis obscuris, subulata, patentia, concava, nervo percursa, cellulis obscuris minutis, marginibus minutissime scabris; perichætialia e basi subduplo longiore vaginante subulata, patentia. Theca in pedunculo rubro elongato, breviter ovalis, subæqualis, subinclinata, operculo subulato.

Angstrœmia campylophylla, *C. Müll. Syn.* ii. 608.

Hab. Andes Quitenses, *Jameson*; Chimborazo in rivuli saxis (10,000 ped.), *Spruce*, n. 35.

Caulis 1–2-uncialis. Folia viridia, flavescentia.

This, or a very closely allied species, is found in New Zealand.

6. A. VARIUM (*Hedw. Musc. Frond.* ii. t. 34, Dicranum). Caulis brevis. Folia patentia, interdum subsecunda, subulata, marginibus inferne recurvis reflexisve apice integerrimis subserrulatisve, nervo percursa, cellulis elongatis; perichætialia lanceolata subulata. Theca in pedunculo rubro, ovalis, inclinata, operculo brevirostri.

Hab. Cuba, ad viarum latera, *Wright*, n. 37.

Caulis 2-3-linearis. Folia parva, viridia, lutescentia. Pedunculus 3-linearis.

8. CYNONTODIUM, Hedw. Sp. Musc. 57.

Musci caulibus gracilibus parum divisis. Folia subulata, setacea, ut plurimum nitida, siccitate haud crispata, pellucide areolata; perichætialia basi convoluta longiora. Thecæ longe graciliterque pedunculatæ, cylindraceæ, erectæ, interdum inclinatæ, operculo rostrato. *Habitatio* ad terram.

Inflorescentia monoica.
  Folia caulina disticha .... 1. *C. capillaceum.*
  Folia caulina undique patentia.
    Folia a basi erecta, oblonga, sensim angustata, subulata.
      2. *C. strictum.*
    Folia a basi parva, sensim longe angusteque subulato-attenuata.
      3. *C. affine.*
    Folia inferne oblonga elongato-ovaliave, nervo subulato excurrente.
      4. *C. australe.*
    Folia inferne subelliptica, longe subulato-attenuata.
      5. *C. Hookeri.*
    Folia inferne erectiuscula, oblongo-obovata, subito subulata, erosa.
      6. *C. elongatum.*
Inflorescentia dioica.
  Folia basi oblonga, complicata, nervo in subulam elongatam excurrente.
      7. *C. gracile.*
  Folia basi elongate elliptica, subulato-angustata .. 8. *C. hyalinum.*
  Folia a basi vaginantia, subito subulata .... 9. *C. rufescens.*
  Folia elliptica, breviter subulata .... 10. *C conicum.*
  Folia inferne elliptica erecta, nervo longe excurrente sensim tenuiter angustato .... 11. *C. crinale.*

* *Inflorescentia monoica.*

1. C. CAPILLACEUM (*Hedw. Sp. Musc.* 57). Dense cæspitosum, inferne radicellis rufis intertextum. Folia disticha, in dimidio inferiore erecta, elliptica, complicata, caulem amplexantia, superne marginibus minutissime crenulatis, dimidio superiore e nervo subulato patente scabro excurrente composito; perichætialia conformia, longiora. Theca oblongo-cylindracea, erecta, rarius curvata subinclinatave, operculo conico, peristomio brevi.

Distichium capillaceum, *Bruch et Schimp. Bryol. Eur.* fasc. 30.

Hab. Andes Quitenses, Pichincha et Chimborazo, *Jameson*; Chimborazo in declivibus humidis (14,000 ped.), *Spruce*, n. 33.

Caulis ½-3-uncialis. Folia viridia, nitida. Pedunculus ½-uncialis.

Found alike in the Arctic regions, in New Zealand, and on the mountains of Africa and India. Usually described with smooth leaves.

2. C. STRICTUM (*Mitt.*). Humile. Folia patentia, subsecunda, apice abrupta minute serrulata, nervo basi folii latitudinis $\frac{2}{4}$ occupante, superne a lamina indistincto, cellulis basi elongatis angustis, superioribus oblongis elongatisve obscuriusculis; perichætialia tria interiora tertia parte inferiore convoluta, oblongo-elliptica, nervo excurrente attenuato. Theca cylindracea, inclinata, subarcuata, peristomii dentibus minute scabriusculis.

Trichostomum pallidum β. strictum, *Schwægr.* t. 123.

Cynodontium Bogotense, *Hampe in Linnæa,* xxxiii. 135, *et in Ann. Sc. Nat.* ser. 5. iii. 360.

Hab. Jamaica ad Marius Gap, *Maxwell.* Andes Bogotenses in montibus prope Bogota, *Weir,* n. 174; La Penna, ad rivulos (2900 metr.), *Lindig.*

Very nearly resembling *C. pallidum,* Hedw. (*Trichostomum*), of Europe and North America, but with narrower leaves, having the nerve distinct from the lamina almost to the very apex.

3. C. AFFINE (*C. Müll. in Bot. Zeit.* 1847, 825; *Syn.* i. 452, Leptotrichum). Caulis brevis. Folia patentia erecto-patentiave, cellulis inferioribus elongatis oblongisque, nervo basi folii latitudinis tertiam partem occupante, superne fere ad apicem usque lamina folii angustissime marginato, summo apice minute denticulato; perichætialia inferne longe elliptica convoluta, subito subulata. Theca elliptico-cylindracea, inæqualis, subarcuata, operculo subulato, peristomii dentibus "rugulosis longis rubris haud nodulosis."

Hab. Insula Juan Fernandez, *Herb. Montagne*; Patagonia, *Lobb.*

Caulis 2–3-linearis. Folia pallida luteo-viridia vix nitida. Pedunculus uncialis. Theca aurantiaca.

4. C. AUSTRALE (*Mitt. in Journ. Linn. Soc.* 1859, Leptotrichum). Caulis cæspitosus, plus minus elongatus. Folia patentia, cellulis oblongis, nervo concavo stricto punctulato obscuro, superne denticulato-scabro, apice abrupto; perichætialia longius latiusque convoluta. Theca in pedunculo breviusculo fusco, oblongo-ovalis, erecta, cinnamomea, operculo subulato, peristomii dentibus brevibus. Flos masculus lateralis sessilisque, vel in ramo plus minus elongato terminalis.

Hab. Andes Quitenses, Chimborazo, *Jameson.*

Caulis $\frac{1}{2}$–4-uncialis. Folia fulva, inferne nigrescentia. Pedunculus 4-linearis.

It occurs in the Falkland, Lord Auckland's, and Campbell's Islands, in Tasmania and New Zealand.

5. C. HOOKERI (*C. Müll. Syn.* i. 450, Leptotrichum). Caulis cæspi-

tosus. Folia patentia, cellulis elongatis apice rotundatis, nervo latitudinis folii $\frac{1}{5}$ occupante canaliculato apice denticulato; perichætialia inferne longius convoluta. Theca in pedunculo purpureo, cylindracea, erecta inclinatave, operculo conico breviter subulato, peristomii dentibus angustis læviusculis pallidis, cruribus apicem usque adhærentibus. Flos masculus gemmiformis, lateralis.

Hab. Terra del Fuego in parte australiore, *Darwin*; in fretu Magellan in sinu "St. Martin's Bay," *Davis*; ins. Hermite in monte Forster, *J. D. Hooker*.

Caulis 3–12-linearis. Folia fulva, nigrescentia. Pedunculus uncialis.

The peristome appears as above described, and not with the teeth cleft as stated by C. Müller, *l. c.*

6. C. ELONGATUM (*Hook. f. et Wils. Fl. Tasm.* ii. 176, t. 173. f. 1, Trichostomum). Caulis brevis. Folia basi caulem laxe amplexantia, cellulis inferioribus elongatis, superioribus rotundatis, inde reflexa patentia divergentiaque, nervo longe excurrente angusto, cellulis ubique prominulis scabrello, summo apice obtusiusculo denticulato; perichætialia inferne longiora latioraque convoluta. Theca in pedunculo flavo elongato, cylindracea, erecta, operculo conico-subulato, peristomio parvo, dentibus angustis erosis, cruribus adhærentibus.

Hab. Chile ad Colchague, *Herb. Hooker.*

Caulis $\frac{1}{2}$-uncialis. Folia sordide viridia, rigidula. Pedunculus $\frac{1}{2}$-uncialis altiorque.

Distinct in its scabrous foliage and long cylindric erect pale capsule. It inhabits also Australia and Tasmania.

** *Inflorescentia dioica.*

7. C. GRACILE (*Mitt. in Hook. Kew Journ.* iii. 353, Leptotrichum). Caulis gracilis, subsimplex. Folia erecto-patentia, stricta, apicalia vix subsecunda, caulina inferne anguste hyalino-marginata, cellulis inferioribus firmis elongatis, superioribus rotundatis, superne crassiuscula, obscura, apice minute denticulata; perichætialia longiora longius complicata. Theca cylindracea, suberecta, operculo conico, peristomii dentibus pallide rubris minute punctulatis.

Leptotrichum neurophyllum, *Spruce, Cat.*

Hab. Andes Quitenses, *Jameson*; in monte Cordovasto, ad saxa (11,000 ped.), *Spruce*, n. 49.

Caulis $\frac{1}{2}$-unciam altus, parum divisus simplexve. Folia superiora luteoviridia, inferiora nigro-fuscescentia, lineam breviora. Pedunculus $\frac{1}{2}$-uncialis. Theca olivacea, demum fusca. Planta mascula infra flores iterum iterumque innovationibus continua.

8. C. HYALINUM (*Mitt. in Journ. Linn. Soc.* 1859, Leptotrichum). Caulis elongatus, ramosus. Folia erecto-patentia, inferne convoluta hya-

lino-marginata, nervo subulam superiorem totam occupante, apice parce denticulato, cellulis inferioribus elongatis subparallelogrammaticis sensim superne in minutas rotundatas transeuntibus firmis; perichætialia basi latiora longioraque vaginantia. Theca in pedunculo luteo-fusco, ovali-cylindracea.

Hab. Fuegia, ins. Hermite, in collibus ad terram, *J. D. Hooker.*

Caulis ½-unciam altus. Folia stricta, fusco-viridia.

9. C. RUFESCENS (*Hampe in Linnæa,* xxxi. 521, Leptotrichum). Pulvinatum, cæspitosum, subfastigiatum, rufescens, aureo-nitens, humile; caulis brevis, gracilis, basi fusca subnuda simplex, inferne undique laxe foliosus, superne comoso-foliosus, erectus. Folia inferiora breviora, superiora longissima, basi latiora elongata parum flexuosa, patenti-erecta, subintegerrima, nervo dilatato percursa subulam totam occupante, canaliculata, cellulis basilaribus latioribus angustato-ellipticis, cæteris angustioribus lineari-ellipticis, rufescenti-aureis subdiaphanis; perichætialia breviora, e basi lanceolato-subulata, magis diaphana, integerrima. Seta pallida, gracillima, semiuncialis, caulem subæquans vel parum longior. Theca ovato-elliptica, subobliqua, ore cingulo rubro notata, operculo conico subulato tertiam thecæ partem attingente, dentibus peristomii flavescentibus subulatis didymis pyramidato-conniventibus longis deorsum tortilibus.—*Hampe, l. c. et in Ann. Sc. Nat.* ser. 5. iii. 360.

Hab. Andes Bogotenses, Bogota, La Penna, Paramo, San Fortunato, Guadelupe (2800–3200 metr.), in præruptis "Barrancas," *Lindig,* etiam Cipacon (2500 metr.), *Lindig* (sec. Hampe in Linnæa).

10. C. CONICUM (*Mont. in Ann. Sc. Nat.* ser. 3. iv. 109, Aschistodon). Caulis elongatus, gracilis. Folia erecto-patentia, stricta, brevia, marginibus incurvis, nervo inferne folii latitudinis ⅕ occupante fere ad apicem usque a lamina cernendo, cellulis basi paucis elongatis inde in oblongas superiores rotundatas obscuriusculas transeuntibus; perichætialia late elliptica, longissime convoluta, nervo excurrente erecto. Theca cylindracea, inclinata.

Leptotrichum Montagnei, *C. Müll. Syn.* i. 448.

Hab. Chili australis, *Gay*; Chiloe, *Lobb.*

Caulis uncialis. Folia luteo-viridia, subnitida. Pedunculus ½-uncialis. Theca fusca.

11. C. CRINALE (*Tayl. in Hook. Lond. Journ.* vii. 280, Didymodon). Caulis elongatus, gracilis. Folia complicata, cellulis elongatis, superioribus minutis ovalibus, obscuriuscula, apice dentata, patula, curvata flexuosave, lævia; perichætialia longiora, longe lateque convoluta, nervis longe excurrentibus. Theca in pedunculo rubro, parva, cylindracea, inclinata, peristomii dentibus angustis erosis.

Leptotrichum crinale, *Mitt. in Hook. Kew Journ.* iii. 53.

Hab. Andes Quitenses, *Jameson.*

Caulis 2-uncialis. Folia laxa, subnitentia, viridia, sicca varie curvata. Pedunculus $1\frac{1}{2}$-uncialis.

Resembles the European and North-American *C. flexicaule.*

9. RHAMPHIDIUM, gen. nov.

Musci humiles, gregarii. Folia brevia, lata, subpellucide areolata, mollia, tenera, cellulis superioribus abbreviatis; perichætialia convoluta. Thecæ longe pedunculatæ, peristomii dentibus elongatis. *Habitatio* ad terram humidum.

R. MACROSTEGIUM (*Sulliv. in Proceed. Amer. Acad. Sc.*). Dioicum; caulis brevis. Folia ambitu lanceolata, apice obtusiuscula, crenulata, tertia parte longitudinis inferiore caulem amplexante, cellulis elongatis pellucidis, parte superiore patula, apice incurva, canaliculata, nervo percursa, cellulis minutis rotundatis; perichætialia longiora, inferne longius vaginantia, marginibus superne inflexis, apice distinctius serrulatis. Theca oblongo-cylindracea, inclinata, operculo angustissimo subulato thecam longitudine superante, peristomii dentibus rubris asperulis, apicibus angustissime attenuatis.

Hab. Ins. Jamaica, *Wilds*; Cuba, *Wright*, n. 24. Andes Quitenses, in rivuli Antombos ripis fluvii Pastasa affluentis (5000 ped.), *Spruce*, n. 37. Brasilia tropica, *Burchell.*

Caulis 1–3 lineas altus. Folia vix lineam longa, lutea, curvata. Pedunculus 4–6 lineas longus. Theca rufescens, tenera, nitida.

R. vaginanti, Dozy et Molk. Musc. Archip. Ind. t. 42 (*Trichostomo*) simillimum.

10. TREMATODON, Rich. in Mich. Fl. Am. Bor. ii. 289.

Musci gregarii, humiles. Folia subnitida, subulata, sensim perichætium versus magnitudine increscentia; perichætialia basi longiora, convoluta. Thecæ curvatura collis inclinatæ, striis coloratis demum plicatæ, operculo subulato, peristomio longiusculo, dentibus angustis. Flores monoici, rarius dioici. *Habitatio* ad terram humidum.

Theca gymnostoma .... 1. *T. brachypus.*
Theca peristomata
  Folia vaginantia.
    Folia superne in subula margine erecto.......... 2. *T. vaginatus.*
    Folia superne in subula margine revoluto........ 3. *T. squarrosus.*
  Folia haud vaginantia.
    Folia a basi ovata, subulata. Theca collo duplo longiore. 4. *T. reflexus.*
    Folia anguste lanceolata. Theca collo vix duplo longiore. 5. *T. humilis.*
    Folia lanceolata, obtusa. Theca brevicollis ...... 6. *T. brevirostris.*

1. T. BRACHYPUS (*Mont.*). Caulis brevis. Folia patentia, subulata, perichætialiaque acuta. Theca ovalis, inclinata, collo æquilongo, in pedunculo brevi flexuoso.

Hab. Brasilia, *ex Herb. Montagne.*

Caulis lineam altus. Folia fusca. Pedunculus vix 2 lineas longus.

2. T. VAGINATUS (*C. Müll. in Bot. Zeit.* 1857, 380). Flos masculus in ramulo basilari terminalis. Folia caulina inferiora breviora, superiora longiora et latiora, omnia laxe reticulato-vaginata, vagina apicem versus convolutacea atque dilatata sinuato-emarginata, in subulam flexuosam carinatam nervo late percursam acutiusculo-obtusatam summo apice denticulatam margine erectam laxius reticulatam producta; perichætialia ut caulina superiora. Theca in pedunculo longiusculo strictiusculo flavo, erecta, e collo brevi basi ventricoso angustissimo stricto, cylindracea, pallide fusca, late annulata, operculo oblique subuloso; peristomio *T. reflexi.*

Hab. Brasilia, in mont. Corcovado ad rupes humidos, *Gardner*, n. 29, ex parte.

T. reflexo characteribus accuratius notatis certe distinguitur; nam hic differt: foliis ligulato-obtusis, superne minutius areolatis et tenuius nervosis profunde canaliculatis, margine reflexis, basi vaginata haud dilatato-sinuata, atque theca longicolli.—*C. Müll. l. c.*

3. T. SQUARROSUS (*C. Müll. in Bot. Zeit.* 1857, 381). Flos masculus in ramulo basilari elatiusculo terminalis. Caulis fœmineus robustus, simplex. Folia dense conferta, squarrosa, inferiora minora, omnia e basi lato-vaginata, laxissime reticulata, apicem versus dilatata, in subulam valde reflexam robustam flexuosam longiusculam margine revolutam canaliculatam minute sed laxe reticulatam obscuriusculam et apice denticulatam producta, nervo basi tenuiore in subulam latius excurrente. Theca in pedunculo elongato flavido strictiusculo, erecta, tenella, pulchella, e collo brevi basi ventricoso angustissimo, cylindraceo-oblonga, late annulata, operculo longirostri subobliquo; peristomii dentes regulares, bicrures.

Hab. Brasilia, ins. Santa Catharina solo argillaceo ad vias et in declivibus ad Rio de Velha copiose, *Pabst.*

Characteribus supra datis facile cognoscendus. *T. reflexus* foliis multo strictioribus, haud squarroso-reflexis, ligulato-oblongis, vagina et lamina brevioribus et theca longicolli primo intuitu recedit. *T. vaginatus* multo humilior, foliis strictis margine erectis jam distinguitur.—*C. Müll. l. c.*

4. T. REFLEXUS (*C. Müll. Syn.* i. 459). Caulis brevissimus. Folia crispato-incurva, a basi ovata, subulata, acutiuscula, comalia longiora apice obtusiora canaliculata, nervo ad apicem usque a lamina distincto, marginibus recurvis apice subdenticulatis, cellulis basilaribus laxioribus oblongis, superioribus brevioribus obscuris; perichætialia erecta, breviora, apicibus ligulato-obtusis. Theca in pedunculo luteo, oblonga, collo

arcuato duplo longiore, operculo oblique subulato, peristomii dentibus medio fissilibus.

Hab. Brasilia, Santa Catharina, *Pabst*; in monte Corcovado ad rupes humidas, *Gardner*; Parana, Fazenda de Tucandava (2000 ped.), *Weir*, n. 74.

5. T. HUMILIS (*Mitt.*). Dioicus? Caulis brevis. Folia inferiora anguste lanceolata, superiora longiora perichætialiaque exteriora subulata, elongata, apice obtusa, omnia patentia; perichætialia interiora acutiora erectiora curvata, nervo carinata, marginibus erectis angusteve recurvis, apice subdenticulatis, cellulis basilaribus elongatis laxis, superioribus abbreviatis obscuriusculis. Theca oblonga, inclinata, collo vix duplo longiore, in pedunculo luteo, operculo subulato obliquo, peristomio *T. longicollis.*

Hab. Andes Quitenses ad fl. Bombonasa, locis cultis (1200 ped.), *Spruce*, n. 44 *b*; ad fl. Napo, *Jameson.* Ins. Cuba, *Wright*, n. 22?

T. reflexo similis, folia autem margine angustissime recurva vel erecta.

6. T. BREVIROSTRIS (*Hampe in Ann. Sc. Nat.* ser. 5. v. 336). Caulis brevis, humillimus, paucifolius. Folia carinata, brevia, congesta, lanceolata, obtusa, integerrima, nervo apice evanido, cellulis basilaribus elongatis, pentagono-quadratis, versus apicem folii abbreviatis, angulato-quadratis, lutescenti-diaphana. Seta semiuncialis, erecta, flexuosa, gracilis, apice parum incrassata. Theca parva, obliqua, brevicollis, ovata, adscendens, operculo rubro brevirostro, dentibus peristomii brevibus, divisis. —*Hampe, l. c.*

Hab. Andes Bogotenses, Pic de Cuesta (1200 metr.), *Lindig.*

11. CERATODON, Brid. i. 480.

Musci cæspitosi, parum ramosi. Folia brevia, mollia, haud nitida, cellulis abbreviatis areolata; perichætialia plus minus convoluta. Thecæ longe pedunculatæ, suberectæ, ætate inclinatæ, plicatæ, operculo breviusculo, peristomii dentibus angustis firmis. *Habitatio* ad terram nudam.

C. PURPUREUS (*Linn. Sp. Pl.* 1575, Mnium). Caulis brevis vel plus minus elongatus. Folia erecto-patentia, anguste lanceolata, marginibus recurvis apice indistincte serrulatis, nervo percurrente carinata, cellulis basilaribus paucis oblongis, superioribus quadrato-rotundis pellucidis; perichætialia oblonga, convoluta, submutica, brevi-acuminata vel subulato-acuminata. Theca in pedunculo rubro interdum luteo elliptico, cylindracea, plicata, inclinata, plus minus arcuata, baseos apophysi parva, operculo conico, peristomii dentibus angustis ad basin fere bicruribus.

Hab. Andes Novo-Granatenses, in montibus prope Bogota (8800 ped.), *Weir*, n. 224, 225; ad viam inter Bogota et Fusagasuga prope Lebate

(8500 ped.), *Weir*, n. 230. Venezuela, Caracas (5000 ped.), *Funck et Schlim.* n. 473. Fuegia, Magellan ad Sandy Point, *Lechler, inter* n. 1015.

12. SYMBLEPHARIS, Mont. in Ann. Sc. Nat. ser. 2. viii. 252.

Musci cæspitosi, caulibus plus minus elongatis parum divisis. Folia a basi latiore amplexicauli subulata, cellulis lævibus vix nitidis, siccitate crispata; perichætialia convoluta, longiora. Thecæ cylindraceæ, peristomii dentibus brevibus. *Habitatio* ad arbores.

Pars folii subulata apice serrulata	1. *S. helicophylla.*
Pars folii subulata apice integerrima	2. *S. Lindigii.*
Folia angustiora, breviora	3. *S. Chrismari.*
Folia superne subulata integerrima, sæpe diffracta	4. *S. fragilis.*

1. S. HELICOPHYLLA (*Mont. l. c.*). Cæspitosa. Caulis simplex divisusve. Folia e basi erecta superne dilatata caulem amplexante, cellulis angustis elongatis, subito recurva, divergentia, apicibus incurvis, marginibus inferne flexuosis superne erectis subintegerrimis, canaliculata, nervo percurrente dorso apice parce serrulato, cellulis minutis quadrato-rotundis; perichætialia basi longe convoluta. Theca in pedunculo gracillimo breviusculo, cylindracea, elongata, peristomii dentibus angustis rubris minute erosis.

S. Œrstediana, *C. Müll. Syn.* ii. 613.

Hab. Mexico ad Oaxaca, *Andrieux*; Costa Rica, *Œrsted.* Andes Quitenses, Pallatanga (6000 ped.), *Spruce*, n. 26 *b*.

Caulis $\frac{1}{2}$–1-uncialis. Folia luteo-viridia, sicca crispata.

2. S. LINDIGII (*Hampe in Linnæa*, xxxii. 136). Laxe cæspitosa, fere biuncialis, fusco-crocea, apice micans. Caulis mediocris vel elongatus, irregulariter fastigiatus, subsimplex, basi fusco-tomentosus, parce ramis brevibus auctus, undique foliatus, apice croceus. Folia undique imbricata, e basi latiore vaginante appressa, refracto-patula, lanceolato-subulata, canaliculata, cirrhata, integerrima, nervo mediocri lutescente apice desinente, cellulis basilaribus elongato-quadratis, interstitiis parce nodulosis aureo-splendentibus, apicem versus cellulis minoribus rotundatis parce incrassatis; tota lutescentia, transparentia. Seta brevis, erecta, apicalis vel pseudo-lateralis, interdum geminæ aggregatæ lutescentes basi foliis perichætialibus conformibus involutæ. Theca cylindrica, opaca, erecta, ore rubra; operculo subulato recto, tertiam v. fere dimidiam thecæ partem metiente, calyptra longa fere basin thecæ attingente, peristomii dentibus lanceolatis cuspidatis per paria approximatis integris vel parum fissis, columella sæpe exstante persistente.

Hab. Andes Novæ Granatæ, Paramo Choachi (3600 met.) ad ramos fruticeti, *Lindig*.

S. Œrstedianæ C. Müll. toto habitu similis, differt sexu monoico, foliis subintegerrimis nec valde serrulatis, etiam peristomii dentibus brevioribus nec bifidis.—*Hampe, l. c.*

If the inflorescence of *S. Œrstediana* were really, as described, dioicous, then *S. Lindigii* would contrast with it in that character; but as all the known South-American species are monoicous, there remains in the descriptions scarcely any distinction from the original species, *S. helicophylla.*

3. S. CHRISMARI (*C. Müll. Syn.* ii. 614). *Symblephari helicophyllæ* simillima, sed folia angustiora, breviora, e cellulis mollibus chlorophyllosis nunquam incrassatis areolata. Thecæ angustissime cylindricæ, elongatæ, erectæ, valde falcato-arcuatæ, longe subulate suberecte operculatæ, solitariæ vel rarius aggregatæ, terminales vel innovando laterales, longiuscule pedunculatæ, basi subinæquales vix strumosæ; peristomii dentes angustissimi, cruribus vix cohærentibus.

Hab. Mexico, prov. Mechoacan, Cerro San Andres in ligno putrido formam humilem, prope Jalapam formam elatam robustiorem legit *Chrismar.*

Theca illi *Mielichhoferiæ campylothecæ* similis.—*C. Müll. l. c.*

4. S. FRAGILIS (*Mitt.*). Cæspitosa subrigida. Folia a basi erecta latissime ovali amplexante angusta, integerrima, patentia, ut plurimum medio diffracta, statu sicco incurva subtorta, nervo percursa, cellulis in parte erecta angustis, inde ad apicem usque parvis rotundatis; perichætialia longe vaginantia, interna apicibus fere ad basin thecæ ovalis productis. Pedunculus flavus; operculum subulatum.

Hab. Andes Quitenses, prope Mulmul et Tunguragua (9000 ped.), *Spruce,* n. 23, et *Jameson.*

13. LEPTODONTIUM, Hampe in Linnæa, xx. 70.

Musci cæspitosi, caulibus sæpe elongatis, radicellis inter folia tomentosis, parum divisis. Folia breviuscula, latiuscula, supra medium serrulata, cellulis rotundatis papillosis obscuris, siccitate flexuosa flavescentia; perichætialia interdum elongata, exserta, vix convoluta. Thecæ in pedunculo gracili elongato, cylindraceæ, ætate interdum inclinatæ, peristomio parvo debili, dentibus læviusculis. *Habitatio* terrestris, in arboribus rarius, vel præcipue inter rupes vulcanicas.

Caulis brevis. Folia oblongo-ligulata .... 1. *L. filescens.*
Caulis elatus.
  Folia lanceolata sensim angustata, margine ubique serrulata.
  2. *L. luteum.*
  Folia squarrosa, subsecunda, inferne elliptica, superne subulata, elongata, acuta .... 3. *L. brevisetum.*

Folia squarroso-recurva, inferne elliptica, superne late subulata, latiuscule acuta .... 4. *L. sulphureum.*

Folia excurrentinervia .... 5. *L. ulocalyx.*

Folia recurva, sublanceolata, apicibus acutis deorsum spectantibus. 6. *L. acutifolium.*

Folia patentia, curvata, a basi erectiore subovali-elliptica sensim longe angustata .... 7. *L. cirrhifolium.*

Folia densa, inferne erecta, sensim patentia, elongate lanceolata, angustata, acuta .... 8. *L. densifolium.*

Folia laxa, squarrosa, elongate lanceolata, apice latiuscule obtusa. 9. *L. longicaule.*

Folia squarrosa, lanceolato-lingulata, apice mucronata. 10. *L. brasiliense.*

1. L. FILESCENS (*Hampe in Linnæa,* xxxii. 128). Cæspitosum, humile, gracile, caule rufo. Folia inter se remotiuscula, a basi erecta sensim recurvo-patentia, apice lata, acuta, mucrone minuto hyalino, nervo parum pellucidiore, margine ad basin apicemque erecto, medio recurvo, ob papillarum prominentiam minute erosa, cellulis superioribus rotundis obscuris, basilaribus paucis suboblongis pellucidioribus; perichætialia longiora, inferne latiora, convoluta, cæteroquin caulinis similia. Pedunculus breviusculus, luteus. Theca erecta, cylindracea, ore rubro, operculo acuminato; peristomium breve; "calyptra thecam fere totam involvens, apice scabriuscula."

Hab. Andes Bogotenses, Paramo Choachi in tectis stramineis (3600 metr.), *Lindig,* n. 2127.

2. L. LUTEUM (*Tayl. in Hook. Lond. Journ.* v. 48, Didymodon). Folia e basi brevi erecta superne latiore complicata, undulata, marginibus a basi ad medium usque reflexis, nervo percurrente; perichætialia caulinis duplo longiora, basi elongata latiora, erecta, appressa, laxe convoluta, marginibus recurvis. Thecæ cylindraceæ, ut plurimum tres ex eodem perichætio.

Hab. Andes Quitenses, *Jameson.* Andes Bogotenses, in montosis prope Bogota et Tipaquira (9200 ped.), *Weir,* n. 372; Guadelupe et La Penna (2900–3100 metr.), *Lindig.*

Caulis 2–3 uncias altus. Folia laxiuscula, sicca singula in spiram contorta patentia curvataque. Pedunculus ½-unciam longus, luteus.

3. L. BREVISETUM (*Mitt.*). Caulis elongatus. Folia recurva, nervo percurrente carinata, subcomplicata, marginibus undulatis superne serratis inferne reflexis, cellulis basi elongatis lævibus, nonnullis in lineis fuscis dispositis, superioribus minutis rotundatis; perichætialia elongata, erecta, laxe convoluta, apicibus angustatis, ad thecæ erectæ cylindraceæ medium productis. Pedunculus brevis.

Hab. Mexico, *Coulter, Herb. Hooker.*

Caulis 1–2 uncias altus. Folia sicca curvata subappressa, juniora luteo-viridia, seniora fusca. Pedunculus 3-linearis, luteus. Theca fusca.

Leaves longer and narrower than in *L. sulphureum*, not much altered when dry, the perichætial leaves remaining straight. Very near to this or to *L. ulocalyx* is the *Syrropodon? excelsus*, Sull., of the United States.

4. L. SULPHUREUM (*C. Müll. Syn.* ii. 626, Trichostomum). Caulis elongatus, fusco-tomentosus. Folia basi erecta, nervo percurrente carinata, marginibus a basi ad medium usque reflexis, inde ad apicem serrulatis, cellulis basi paucissimis elongatis, ad latera minutis rotundis, superioribus rotundis parvis obscuriusculis, fere omnibus minute papilliferis; "perichætialia *L. ulocalycis*, sed basi e cellulis laxis elongatis haud interruptis reticulata. Theca in pedunculo brevi flexuoso flavo, erecta, solitaria, cylindracea, arcuata, apicem versus angustata, microstoma, ore purpurea, operculo oblique subulato longiusculo, peristomii dentibus brevissimis angustissimis remote articulatis."

Hab. Nicaragua in monte vulcanico Viego (5000 ped.), *Œrsted.*

Caulis 3-uncialis, ramosus. Folia flava, sicca appressa, contorta.

5. L. ULOCALYX (*C. Müll. Syn.* ii. 578, Trichostomum). Tomentosum; habitus *L. squarrosi.* Folia caulina longiora angustiora, basi e cellulis angustis firmis rectangularibus inferne lævibus superne punctulatis supra basin angulato-rotundatis minutissime papillosis areolata, supra basin brevissimam margine ultra medium revoluta, apicem versus inæqualiter serrata, excurrentinervia; perichætialia e basi longe vaginante, cujus cellulæ angustæ elongatæ ubique parietibus interruptis instructæ firmæ haud laxe teneræ, longe anguste acuminata, valde undulata. Theca in pedunculo brevi, tortili, rigido, erecta, cylindrico-oblonga; peristomii dentes (thecæ deoperculatæ supramaturæ) rudimentarii brevissimi.—*C. Müll. l. c.*

Hab. Mexico, *Deppe et Schiede* (sub nom. *Trichostomi squarrosi,* Hornsch.).

Species ex auctore *L. squarroso,* Hook. (Didymodonti) Musc. Exot. t. 150, Indiæ orientalis similis.

6. L. ACUTIFOLIUM (*Mitt.*). Caulis elongatus, ramosus. Folia a basi erecta superne dilatata sensim angustata, complicata, nervo subpellucido percursa, marginibus a basi ad medium usque recurvis reflexisve, integerrimis, inde ad apicem serrulatis, cellulis basi elongatis angustis pellucidis spatium pallidius suborbiculari-obcordatum occupantibus, infimis croceis, marginalibus superioribusque omnibus minutis rotundis, papillis obscuris; perichætialia caulinis subtriplo longiora, interna erecta, convoluta. Theca in pedunculo elongato, stramineo, ovali-cylindracea, operculo brevi subulato, peristomii dentibus angustis brevibus.

Hab. Guatemala, Volcan de Fuego, *Godman et Salvin.* Andes Quitenses, Chimborazo et Cayambe, *Jameson*; Pangor et Carguairazo (procerius) ad rupes (10,000–11,000 ped.), *Spruce*, n. 29.

Caulis 1–4 uncias altus. Folia sicca appressa, in statu proceriore curvata tortaque. Pedunculus $\frac{1}{2}$-unciam longus, flavus.

7. L. CIRRHIFOLIUM (*Mitt.*). Caulis elongatus, subsimplex. Folia siccitate cirrhoso-tortuosa, marginibus inferne reflexis, superne flexuosis, a medio ad apicem serratis, nervo percurrente dorso minute papilloso, cellulis basi elongatis, superioribus angulato-rotundis obscuris papillosis, interstitiis pellucidis luteis.

Hab. Andes Quitenses, ad terram et rupes secus Banos in monte Tunguragua, *Spruce*, n. 28 et 28 *b*; Guayrapata, *Spruce*, n. 28 *c*.

Caulis 3–6-uncialis, cæspitosus. Folia inferiora fusca, tomento pallide fusco interposito, superiora lutea.

Habit that of *L. aggregatum*, C. Müll., from Java.

8. L. DENSIFOLIUM (*Mitt. in Hook. Kew Journ.* iii. 53, Didymodon). Caulis elongatus, tomento pallido vestitus. Folia nervo parum carinata, subcomplicata, marginibus a paulo supra basin usque ad medium reflexis, inde versus apicem serratis, cellulis basi elongatis angustis lævibus, ad latera oblongis pellucidis, superioribus parvis rotundis granuloso-obscuris; perichætialia elongata, in cylindrum elongatum arcte convoluta, apicibus subulatis flexuosis. Pedunculus elongatus, luteus. Theca erecta, cylindracea, arcuata subinclinatave, operculo subulato, peristomii dentibus brevibus solidis.

Hab. Andes Quitenses, Cayambe (10,000–11,000 ped.), *Jameson, Spruce*, n. 30.

Caulis 2–3-uncialis. Folia flavo-viridia, fuscescentia, seniora fusca. Pedunculus fere unciam longus.

9. L. LONGICAULE (*Mitt.*). Caulis elatus. Folia nervo infra apicem evanido canaliculata, subundulata, marginibus a basi ultra medium folii reflexis, apice serrulatis, cellulis inferioribus paucis oblongis, superioribus rotundis, omnibus minute papillatis granuloso-obscuris.

Hab. Andes Quitenses, in monte Pichincha (11,000 ped.), *Spruce*, n. 30 *b*.

Caulis 3–4 uncias altus. Folia luteo-viridia.

10. L. BRASILIENSE (*Mitt.*). Caulis elongatus, inferne tomento pallido appresso obtectus. Folia madefacta a basi brevi erecta sensim recurva, nervo pellucidiore infra apicem desinente carinata, margine inferne recurva, apicem versus denticulata, cellulis superioribus rotundis parvis chlorophyllo-obscuris, basilaribus oblongis pellucidis.

Hab. Brasilia australis, *Weir*.

Caules $1\frac{1}{2}$ unciam alti. Folia $1\frac{1}{2}$-linearia, pallide flavo-viridia, fuscescentia, siccitate laxe appressa contortaque. Ob folia apicem versus lata *L. squarroso* Indiæ orientalis simile, neque statura discrepans.

14. OREOWEISIA, Schimp. Syn. Musc. Eur. 57.

Musci cæspitosi, humiles. Folia latiuscula, mollia, cellulis papillosis obscuris, perichætialia a caulinis parum diversa. Thecæ cylindraceæ, operculo acuminato, peristomii dentibus breviusculis. *Habitatio* ad terram.

Folia a basi erectiore erecto-patentia, lanceolato-ligulata, obtusa, acuta vel breviter apiculata .... 1. *O. ampliata.*
Folia erecto-patentia, subspathulato-ligulata, obtusa .. 2. *O. ligularis.*
Folia a basi erectiore patentia, longe lanceolato-ligulata, obtusa. 3. *O. bogotensis.*

1. **O.** AMPLIATA (*Mitt.*). Caulis elongatus, inter folia fusco-radiculosus. Folia laxe inserta, canaliculata, nervo lutescente sub apice evanido, marginibus superne dentato-crenulatis, cellulis superioribus rotundatis obscuris papillosis, inferioribus ad nervum parvis oblongis, ad margines brevioribus, omnibus parietibus crassiusculis; perichætialia conformia, inferne laxe convoluta. Theca in pedunculo breviusculo luteo, globoso-ovalis, subæqualis, collo brevissimo, ore amplo, operculo subulato obliquo, peristomii dentibus teneris.

Hab. Andes Quitenses, *Jameson.*

Caulis 1–1½-uncialis. Folia 1½ lineam longa, viridia, sicca crispata. Pedunculus 2 lineas longus. Theca fulva.

Species ab *O. bogotensi* et *O. ligulari* foliis laxis siccis crispatis et theca brevi ampliata discernenda.

2. **O.** LIGULARIS (*Mitt.*). Caulis humilis elongatusve. Folia laxe disposita, complicato-canaliculata, nervo infra apicem evanido concolori, margine superne denticulato-crenulato, inferne interdum recurvo, cellulis superioribus rotundatis subobscuris papillosis, basilaribus oblongis pellucidis, parietibus angustis; perichætialia conformia. Theca in pedunculo flavo, ovali-cylindracea, flexura colli substrumulosi inclinata, infra os obliquum post lapsum operculi conici acuminati paululum contracta, peristomii dentibus brevibus teneris subulatis.

Hab. Andes Bogotenses, prope Bogota (8700 ped.), *Weir.* Andes Quitenses, in monte Picillun, *Jameson, Mathews.* In America australi, *Lobb.*

Caulis 2–3-linearis, interdum 1½-uncialis. Folia 1–1¼ lineam longa, viridia, fuscescentia. Pedunculus 4-linearis. Theca fulva. Ab *O. bogotensi* statu sicco persimillimo foliis basi haud latioribus sed fere exacte ligulatis recedit.

3. **O.** BOGOTENSIS (*Hampe in Linnæa,* xxxii. 131). Caulis humilis elongatusve, inferne inter folia pallide radiculosus. Folia canaliculata, sicca incurvata, nervo concolori percursa, marginibus inferne recurvis reflexisve superne crenulato-denticulatis, cellulis superioribus rotundatis obscuris papillosis, basilaribus omnibus interstitiis teneris, iis nervo proximis oblongis versus margines abbreviatis; perichætialia conformia, basi laxe convoluta. Theca in pedunculo brevi luteo ovali-cylindracea, subæqualis, suberecta, collo vel sensim attenuato vel substrumuloso abrupto sub ore

paululum contracta, operculo conico acuminato, peristomii dentibus teneris brevibus.

Hab. Andes Bogotenses, in montibus prope Bogota (8700 ped.), *Weir*, n. 221; Bogota, La Penna, ad latera umbrosa convallium "Barrancas" dictarum, *Lindig*.

Caulis ½–1 unciam altus. Folia 1½ lineam longa, flavescentia. Pedunculus 3-linearis. Theca fulva.

15. RHABDOWEISIA, Bruch et Schimp. Bryol. Europ.

Musci parvi, caulibus dichotome divisis. Folia latiuscula, papillosa, obscura; perichætialia inconspicua. Thecæ in pedunculo gracili breviusculo, interdum arcuato, breves, peristomii dentibus parvis. *Habitatio* ad terram in fissuris rupium.

Theca gymnostoma............................ 1. *R. cyathicarpa.*
Theca peristomata.
  Folia lineari-lanceolata, elongata, basi pellucida, apice acuta. 2. *R. Lindigiana.*
  Folia lineari-lanceolata, basi haud pellucida, apice acutissima. 3. *R. vulcanica.*

1. R. CYATHICARPA (*Mont.*). Monoica; pulvinatim cæspitosa, fasciculatim ramosa. Folia inferiora lineari-lanceolata, dimidio inferiore erecto, superiore patente, sicca crispata, comalia longiora, nervo percurrente carinata, margine denticulis remotis serrulata integerrimave, erecta vel uno latere inferne recurva, cellulis superioribus minutis rotundis, basilaribus inferioribus elongatis pellucidis; perichætialia seu comalia interiora inferne paululo latiora, cellulis elongatis altius in folium adscendentibus. Theca in pedunculo brevi curvato, parva, tenera, ovali-cyathiformis, operculo planiusculo mamillato. Flos masculus ad perichætii basin gemmaceus.

Hab. Andes Bogotenses, Boqueron, prope Bogota ad rupes, *Weir*, n. 199. Andes Quitenses, Pichincha et Chimborazo, infra rupes, *Jameson*; Pichincha, Carguairazo et Chimborazo (10,000–12,000 ped.), *Spruce*, n. 32.

Caulis ¼–1 unciam altus, ramulis pluribus fasciculatis. Folia inferiora lineam longa, comalia 1½-linearia, viridia, obscuriuscula. Pedunculus linea brevior, pallidus. Theca fuscescens, striata.

The specimens from the Quitenian Andes are a little more slender, and with their leaves less distinctly serrulate than those from the Bogotean Andes.

Forms of this or closely allied species exist in Tasmania, in the island of Madeira, and in Abyssinia (in monte Silke, *Schimper*); they all correspond closely in habit and foliage, but the operculum has a beak equal in length to the diameter of the mouth of the capsule.

2. R. LINDIGIANA (*Hampe in Ann. Sc. Nat.* ser. 5. iii. 352, Weisia).

Humilis, dense cæspitosa, subfastigiata, basi parce fibrilloso-fuscata, superne flavescenti-viridis, sicca crispula; caulis ramosissimus, dense foliatus, vix semiuncialis. Folia madefacta patula vel subrecurva, carinata, parce flexuosa, subintegerrima; cellulis basilaribus elongato-quadratis hyalinis, interstitiis angustioribus, secundis abbreviatis, superioribus angulato-rotundatis subpapillosis; lamina tota flavescenti-diaphana; nervo rufescente ad apicem producto. Seta brevis, pallida, erecta, tortilis. Theca elliptico-ovata, suberecta, parvula, parce apophysata, madefacta striata, pallescens, ore angulo [cingulo?] angusto rubro ornata, sicca sub ore parce contracta, evidenter sulcata; operculo conico-rostrato, thecam dimidiam paulo superante; peristomii dentibus elongatis, sanguineis, basi vix latiore capillaribus, remote articulatis; calyptra angusta, flavescens, glabra, apice fuscata.

Hab. Andes Bogotenses, Bogota, Rio Arzobispo, in umbrosis humidis (2804 metr.), *Lindig.*

Weisiæ fugaci Hedw. simillima, sed differt primo visu theca angustiore, ovato-elliptica.—*Hampe, l. c.*

3. R. VULCANICA (*C. Müll. Syn.* i. 649, Weisia). "Monoica, amœne viridis, inferne radiculosa, haud tomentosa, parce fastigiate ramosa. Folia caulina undique laxe imbricata, crispula, madefacta flexuose patentia, a basi minute firme areolata, vix erecta, reflexiuscula, lineari-lanceolata, subintegerrima, ubique e cellulis minutissimis, papillis tenuissimis præditis, opacis areolata, scaberrima, nervo evanido dorso minutissime scabro carinata. Theca et peristomium regulare ut in *R.* (*Weisia*) *fugace.*"—*C. Müll. l. c.*

Hab. Mexico, in cavernis trachytaceis crateris montis Cerro de los Nebejos, *Ehrenberg.*

"*R.* (*Weisiæ*) *fugaci* Hedw. (montium Europæ) simillima."—*C. Müll. l. c.*

16. BLINDIA, Bruch et Schimp. Bryol. Europ. fasc. 33–36.

Musci cæspitosi, dichotome divisi. Folia subulata, canaliculata, lævia, nitida; perichætialia convoluta. Thecæ in pedunculo brevi recto interdum curvato, post operculi subulati lapsum ore dilatato, peristomii dentibus latis. *Habitatio* ad rupes humidas.

Foliorum cellulæ omnes elongatæ.
  Theca nutans .... 1. *B. arcuata.*
  Theca erecta .... 2. *B. tenuifolia.*
Foliorum cellulæ superiores rotundæ .... 3. *B. curviseta.*

1. B. ARCUATA (*Mitt.*). Caulis brevis elongatusve. Folia laxa erecto-patentia, inferne elliptica, superne nervo canaliculato subulato excurrente, marginibus incurvis, cellulis omnibus elongatis angustis, alaribus fuscis impressis; perichætialia inferne late ovata convoluta, nervo longe excurrente. Theca in pedunculo brevi curvato, nutans, ovalis, post operculi brevirostrati lapsum cyathiformis.

Hab. Fuegia, Hermite Island, *J. D. Hooker.*

Caulis ½–1-uncialis. Folia linearia, subnitida, fulva, fuscescentia. Pedunculus 1½-linearis.

B. acutæ B. curvisetæque simillima sed structura foliorum distincta.

2. B. TENUIFOLIA (*Hook. f. et Wils. in Hook. Lond. Journ.* iii. 542; *Crypt. Antarct.* t. 152. f. 7, Dicranum). Caulis breviusculus. Folia secunda, falcata, inferne anguste elliptica, sensim longe tenuiterque capillari-subulata, marginibus incurvis, nervo supra basin a lamina indistincto, cellulis elongatis angustis, alaribus pluribus pallide fuscis in folii basi adscendentibus; perichætialia basi brevi suborbiculata, convoluta, nervo longe excurrente. Theca in pedunculo brevi crassiusculo, erecta, breviter ovalis, turbinata, operculo subulato, peristomii dentibus brevibus infra os insidentibus.

Hab. Fuegia, Hermite Island, *Hooker.*

Caulis uncialis. Folia fusca, inferiora nigrescentia. Pedunculus 3-linearis. Cellulæ alares haud incrassatæ sed laxæ, ab aliis basilaribus vix distinctæ.

3. B. CURVISETA (*Mitt.*). Caulis plus minus elongatus. Folia patentia secundave, inferne oblongo-elliptica, nervo superne excurrente canaliculato, marginibus incurvis, cellulis basilaribus elongatis oblongisque angustis, superioribus parvis rotundis, alaribus pluribus fuscis ventricosis; perichætialia basi late ovalia convoluta, superne sinuata, nervo crassiusculo longe excurrente. Theca in pedunculo brevi arcuato crassiusculo, cyathiformis, peristomii dentibus rubris dicranis.

Hab. Fuegia, Hermite Island, ad rupes humidas, *J. D. Hooker*; Andes Quitenses, *Jameson.*

Caulis ½–2-uncialis, gracilis. Folia lineam parum excedentia, fulva, fusco-nigrescentia, subnitida. Pedunculus 1½-linearis.

B. acutæ (Dicks.) Americæ septentrionalis et Europæ nisi flexura pedunculi quam maxime affinis.

17. HOLOMITRIUM, Brid. i. 226.

Musci cæspitosi, caulibus elongatis parum divisis. Folia canaliculata, ut plurimum subulata, haud nitida, sicca crispata, cellulis alaribus distinctis; perichætialia longe convoluta, longe exserta. Thecæ cylindraceæ elongatæ, operculo acuminato, peristomii dentibus parvis. *Habitatio* in arborum truncis ramisque.

Folia a basi dilatata sensim subulato-angustata.
  Folia margine obscura .... 1. *H. marginatum.*
  Folia margine haud obscura.
    Folia a basi ovali sensim longe subulata, sicca tortuosa, cirrhata, superiora secunda .... 2. *H. flexuosum.*
    Folia a basi subelliptica anguste lanceolata, sicca tortuosa, subcirrhata .... 3. *H. tortuosum.*
  Folia a basi ovali longe anguste subulata, sicca laxe cirrhosa. 4. *H. Moritzianum.*

Folia a basi concava vaginante obovata lanceolato-subulata, sicca cirrhato-crispula .... 5. *H. longifolium.*

Folia a basi lata superne dilatata amplexante subulata, sicca compacte cirrhata .... 6. *H. arboreum.*

Folia a basi subovata amplexante subulata, sicca curvata vix cirrhosa. 7. *H. Sellowii.*

Folia a basi latissime ovali anguste subulata, sicca tortuosa, subcirrhata .... 8. *H. undulatum.*

Folia a basi lata erecta superne latiore subulata, sicca cirrhosa. 9. *H. antennatum.*

Folia a basi brevi lata subovali longe angustissime subulata, sicca cirrhoso-crispata. .... 10. *H. calycinum.*

Folia a basi oblonga sensim angustata, sicca crispata. 11. *H. pulchellum.*

Folia a basi imbricata, elongato-lanceolata, sicca laxe incumbentia subtorta. .... 12. *H. serratum.*

Folia basi dilatata, apice late acuminata .... 13. *H. Olfersianum.*

Folia basi haud dilatata.

Folia apice acuta. .... 14. *H. Wrightii.*

Folia apice obtusa .... 15. *H. proliferum.*

1. H. MARGINATUM (*Mitt.*). Caulis decumbens. Folia a basi brevi latiore subulata, divergentia, sicca crispata, nervo percurrente carinata, marginibus a medio ad apicem serratis subincrassatis subobscuris, cellulis basi elongatis angustis, superioribus oblongis rotundisque intermixtis, alaribus externis pallide fuscis, internis hyalinis; perichætialia ad pedunculi medium convoluta, apicibus fere ad basin thecæ ovali-cylindraceæ productis. Peristomii dentes breves.

H. crispulum, *Mont., Sull. in Proceed. Amer. Acad.* Aug. 1861.

Hab. Ins. Cuba, in sylvis densis ad arbores delapsas, *Wright*, n. 41.

Caulis ½–¾-uncialis. Folia sicca crispato-incurva, 1½-linearia, lutea, fuscescentia. Pedunculus 5-linearis.

The obscure margin of the leaves, present also in *H. cylindricum* (*Cecalyphum*), Beauv., from Mauritius, distinguishes this from all the yet known South-American species.

2. H. FLEXUOSUM (*Mitt.*). Caulis elongatus, decumbens, flexuosus. Folia laxe inserta, patentia, flexuosa, sicca tortuosa, cirrhata, in caulium apicibus secunda, subcomplanata, apice angusta, nervo percursa, marginibus a medio ad apicem serrulatis, cellulis inferne oblongis elongatisque, parietibus interruptis, sensim superne in quadratas transeuntibus, alaribus copiosis flavidis per folii latitudinem dispositis; perichætalia longe convoluta, apicibus angustis, ad medium pedunculi tenuissimi lutei productis. Theca cylindracea, peristomii dentibus rubris elongatis angustis integris.

Hab. Andes Quitenses in montibus Abitagua et Tunguragua ad ramos (7000 ped.), *Spruce*, n. 21.

Caules 2–3-unciales, decumbentes. Folia 3-linearia, areolatione ut in *Dicranis* majoribus obvia. Theca lineam longa, perfecte cylindracea, in pedunculo unciali capillari.

3. H. TORTUOSUM (*Mitt.*). Caulis decumbens, furcatus. Folia basi erecta latiora, inde patentia, nervo percurrente carinata, dorso apice dentata, marginibus a medio ad apicem serratis, cellulis basi elongatis angustis, superioribus omnibus parvis rotundatis, alaribus exterioribus pallide fuscis, interioribus hyalinis fragilibus; perichætialia longe convoluta, apicibus angustis ultra medium pedunculi pallide rubri productis. Theca elongata, cylindracea, operculo tenui-subulato theca ipsa dimidio breviore, peristomii dentibus angustis brevioribus; calyptra ad thecæ medium descendens.

Hab. Andes Quitenses, in sylva Canelos (3000 ped.), *Spruce*, n. 25.

Caulis 1½-uncialis. Folia longitudine 3-linearia. Pedunculus circiter 9-linearis. Theca 2-linearis.

H. Sellowii simillimum, foliis autem haud inferne amplexantibus.

4. H. MORITZIANUM (*Hampe in Linnæa*, xx. 70). Caulis elongatus. Folia a basi latiore erecta recurva, nervo percurrente carinata, apice dorso dentata, marginibus serratis, cellulis basi elongatis, alaribus distinctis, superioribus omnibus parvis quadrato-rotundis; perichætialia elongata, ad pedunculi medium convoluta, apicibus angustis, ad thecæ elliptico-cylindraceæ basin productis; peristomii dentibus brevibus striatulis.

Hab. Venezuela; Caracas, *Funck et Schlim.* n. 322 et 367.

Caulis 1½–2-uncialis. Folia 4–5-linearia, inferiora fusca, superiora fulva. Pedunculus 7-linearis, luteus.

Larger than *H. calycinum* (Sw.), and with its leaves more loosely crisped when dry.

5. H. LONGIFOLIUM (*Hampe in Ann. Sc. Nat.* ser. 5. iii. 364). Caulis adscendenti-erectus, tomentosus, apice diviso-ramosus, sesquiuncialis. Folia canaliculata, elongata, patentia, superne remote spinuloso-dentata, nervo solidiore percursa, cellulis in angustiore parte folii minus condensatis, laxioribus, magis diaphanis. Theca angustior, cylindrica.

Hab. Andes Bogotenses, Alto del Trigo (2000 metr.) in sylvis ad arbores, *Lindig*, n. 2116.

In schedulis sub *H. crispulo* editum, differt statu graciliore minus rigido, foliis longioribus minus crispatis, basi elongata obovata sensim lanceolato-subulatis, superne latioribus, cellulis laxioribus, magis diaphanis; in *H. crispulo* minimis dense condensatis fere opacis. Hæc species *Weisiæ calycinæ* Hedw. affinior.—*Hampe, l. c.*

6. H. ARBOREUM (*Mitt.*). Caulis sub perichætio innovans, ramosus. Folia patentia, apice sensim acuta, nervo crassiusculo dorso apice dentato, marginibus a medio ad apicem serratis, cellulis basi elongatis sensim in parvas quadrato-oblongas transeuntibus, alaribus fuscis spatium breve

occupantibus; perichætialia in cylindrum longe exsertum convoluta, apicibus fere ad apicem pedunculi straminei productis. Theca longe cylindracea, operculo tenui subulato, peristomii dentibus angustis brevibus integris.

Hab. Andes Peruvianæ, in monte Campana (4000 ped.) ad ramos, *Spruce*, n. 22. Andes Quitenses ad fl. Bombonasa et in sylva Canelos (2000 ped.), *Spruce*, n. 22 *b*.

Caulis uncialis. Folia 2-linearia. Pedunculus 8-linearis. Theca 2-linearis. Species ab *H. tortuoso* foliis brevioribus apicem versus latioribus et siccitate arctius crispatis diversa.

7. H. SELLOWII (*Schwægr.* t. 309). Caules inferne radiculosi intertexti, humiles. Folia a basi erecta sensim longe angustata, patentia, apicibus decurvis, nervo apice dorso dentato carinata, marginibus superioribus serratis, cellulis basi elongatis angustis, alaribus distinctis, superioribus parvis rotundis; perichætialia elongata, convoluta, apicibus thecam cylindraceam attingentibus superantibusve. Operculum subulatum, peristomii dentibus brevioribus.

H. crispulum, *Mart. Ic. Sel. Pl. Bras.* t. 18. f. 2; *Hornsch. in Mart. Fl. Bras. Musc.* 35.

H. tortuosum, *Hornsch. MS.*

Hab. Brasilia, Sierra dos Orgaos, *Gardner*, n. 17, *Martius*; in prov. Parana (2000 ped.) ad truncos Araucariæ frequens, *Weir*, n. 29, ad viam inter Corritiba et oram (2200 ped.), in arborum truncis, *Weir*, n. 101. Andes Quitenses, Cuenca, *Jameson*.

8. H. UNDULATUM (*Mitt.*). Caulis decumbens, elongatus, flexuosus. Folia densa, patentia, dimidio inferiore latissime ovalia, superiore anguste subulata subcomplicata undulata, nervo percurrente apicem versus dorso remote spinoso-dentato, marginibus denticulatis, cellulis omnibus angustis elongatis, alaribus pluribus per totum fere folii latitudinis protractis fuscis; perichætialia longissime convoluta, apicibus angustis, ad thecæ basin attingentibus. Theca in pedunculo gracili pallide rubro, cylindracea, ore parvo, operculo subulato, peristomii dentibus breviusculis angustis rubris integris minutissime granulosis; calyptra thecam ad $\frac{2}{3}$ obtegens.

Hab. Andes Quitenses, in monte Abitagua (7000 ped.), *Spruce*, n. 24.

Caulis 2–4-uncialis. Folia 4–5 lineas longa. Pedunculus uncia paulo brevior. Theca 2-linearis.

In size, habit, and foliage somewhat resembling the European and North-American *Dicranum spurium*, but in the perichætium, theca, and peristome agreeing with *Holomitrium*.

9. H. ANTENNATUM (*Mitt.*). Caulis decumbens. Folia apicibus angustis patentia, nervo percurrente carinata, dorso apice serrato, marginibus a medio ad apicem serratis, cellulis basi elongatis angustis, superioribus omnibus parvis rotundatis, alaribus externis fuscis, internis pluribus hya-

linis; perichætialia convoluta, interna pedunculo fere duplo longiora, apicibus angustis curvatis. Theca ovalis, leptoderma, peristomio parvo, dentibus rubris.

Hab. Brasilia, Sierra dos Orgaos, *Gardner*, n. 27, ex parte.

Caulis 9-linearis. Folia 2-linearia. Pedunculus 4-linearis. Theca linearis.

10. H. CALYCINUM (*Sw.*, *Hedw. Spec. Musc.* t. 14). Folia apice serrulata, nervo percurrente dorso lævi, cellulis alaribus numerosis fuscis, inde elongatis angustis, superioribus omnibus elongatis oblongisque; perichætialia ad thecæ basin usque laxe convoluta, flava, apicibus subulatis angustis, thecam longe superantibus. Theca elliptico-cylindracea.

Hab. Jamaica, *Swartz*, *Wilds*, etiam ex *Herb. Brown.*

Caulis 1–2-uncialis. Folia superiora fulva, 3-linearia, inferiora fuscescentia, sicca cirrhato-incurvata. Pedunculus 6-linearis.

This species appears to be distinct from *H. Sellowii* and from *H. Moritzianum* in the substance of the leaves, as well as in the rather more compact habit. All the specimens agree in having their leaves everywhere fulvous.

11. H. PULCHELLUM (*Mitt.*). Dense cæspitosum, caule gracili rubro. Folia a basi erecta patentia, nervo pallido excurrente, apice parce denticulata, cellulis omnibus pellucidis basi angustis laxis; superioribus rotundatis, alaribus una alterave fuscis fragillimis; perichætialia elongata, erecta, apicibus fere ad thecam productis. Theca subovalis, ore magno, dentibus latiusculis lanceolatis rubris. Planta mascula gracilior.

Hab. Andes Quitenses ad pontem Pastasæ dictum Agoyán (5500 ped.), *Spruce*, n. 26.

Caulis uncialis. Folia inferiora fusca, superiora lutea, perichætialia nitida omnia e substantia limpida; cellulæ alares ob maximam folii basis teneritatem facillime prætervisæ.

A very pretty moss.

12. H. SERRATUM (*Schimp.*, *C. Müll. Syn.* ii. 587). Caulis a basi decumbente erectus, ramis inæqualibus sub apice florifero egredientibus fragilibus. Folia conferta, patula, flexuosa, retrorsum vel sursum curvata, haud raro subundulata, concava, basin versus margine recurva et integerrima, apice plana et dentata, nervo semitereti excurrente, cellulis minimis superne rotundato-quadratis, basi elongatis; perichætium magnum enneaphyllum, foliis internis thecam longe superantibus, pedunculum arcte vaginantibus, in subulam totam productis. Theca in pedunculo recto erecta, cylindracea, tenuiter membranacea, operculo rostellato breviore, annulo duplici turgido magno hyalino; peristomii dentes 16 æquidistantes, ad basin bifidi, cruribus inæqualibus subulatis, apice et sæpius tota longitudine cohærentibus, remote articulatis, basi aurantiacis, apice hyalinis, mollibus et fragilibus; sporæ minutæ.—*C. Müll. l. c.*

Hab. Mexico, Pico de Orizaba, *Liebmann.*

13. H. OLFERSIANUM (*Hornsch. in Mart. Fl. Bras. Musc.* 18). Caulis humilis. Folia basi erecta, subquadrata, superne dilatata, amplexantia, inde patenti-recurva, angustata, oblonga, acuta, nervo sub apice dorso dentato carinata, marginibus serratis, cellulis basi paucis elongatis angustis, alaribus conspicuis, superioribus parvis rotundis; perichætialia in cylindrum laxum elongatum fuscum convoluta, apicibus ad thecæ oblongæ basin attingentibus, peristomii dentibus brevibus angustis.

Hab. Brasilia, Praia Vermelha ad arbores, *Gardner*, n. 28.

Caulis uncialis. Folia viridia. Pedunculus 4-linearis.

14. H. WRIGHTII (*Sulliv. in Proceed. Amer. Acad.* 1861, 279). Caulis elongatus. Folia densiuscula, patentia, recurva, acuminata, nervo angusto percursa, planiuscula, marginibus superne dentatis, cellulis basi in medio folio elongatis luteis, ad margines in seriebus circiter 5 oblongis rectangulis pellucidis latioribus, in serie unica externa minoribus quadratis pellucidis, superioribus oblongis laxis; perichætialia in cylindrum elongatum exserta, apicibus elongatis angustis erectis serrulatis. Pedunculus gracilis, flavus.

Hab. Cuba; in sylvis densis ad arbores, *Wright*, n. 42.

Caulis 1–1½-uncialis. Folia superiora viridia, inferiora fusca, siccitate parum contorta.

Species ob folia basi haud dilatata, cellulis laxis areolata a reliquis *Holomitriis* diversa.

15. H. PROLIFERUM (*Mitt.*). Caulis humilis, tomentosus, apice ramulos plures erectos foliis parvis latissime ovatis julaceo-imbricatis emittens. Folia caulina densa, patentia, ligulata, obtusa, nervo superne tenui angusto in apiculum parvum excurrente, margine apicem versus grosse dentata, inferne integerrima, cellulis oblongis mollibus utriculo contracto obscuratis, marginalibus abbreviatis subquadratis, basilaribus ad angulos flavis.

Hab. Brasilia tropica, *Burchell*, n. 105–110 A.

Caulis ½ unciam altus, ramulis 2–3 lineas longis. Folia lineam longa, sicca appressa.

Remote from all known *Holomitria*, excepting *H. Wrightii*, in the lax and soft areolation of its leaves.

18. DICRANUM, Hedw. Musc. Frond. ii. 91 (ex parte).

Musci ut plurimum robusti, cæspitosi, caulibus elongatis parum furcatim divisis, radicellis sæpe inter folia tomentosis. Folia lata, subulata, canaliculata, nitida, rarius obscura, cellulis elongatis pellucidis, alaribus conspicuis; perichætialia basi latiora, in tubum convoluta. Thecæ longe pedunculatæ, ut plurimum arcuatæ, operculis longirostratis, peristomii dentibus latis. *Habitatio* ad terram rupesque necnon in arboribus.

Sect. 1. ISOCARPUS. *Theca æqualis, lævis. Peristomii dentes integri. Folia obscura, crispata.*

Folia a basi elliptica subulata.
Folia patentia, secunda vel falcata............ 1. *D. antarcticum.*
Folia patenti-incurva .... 2. *D. fastigiatum.*
Folia brevia, lanceolata .... 3. *D. cryptodon.*

Sect. 2. HOLODONTIUM. *Theca æqualis, lævis. Peristomii dentes indivisi. Folia stricta, nitida.*

Nervus folii superne a lamina indistinctus.
Folia falcata, secunda .... 4. *D. inerme.*
Folia stricta, erecto-patentia................ 5. *D. ramulosum.*
Nervus folii excurrens......................... 6. *D. pumilum.*

Sect. 3. CHORISODONTIUM. *Theca æqualis, lævis. Peristomii dentes ad basin usque discreti, superne integri vel plus minus fissi.*

Folia integerrima .... 7. *D. aciphyllum.*
Folia superne serrulata.
Nervus serrulatus.
Nervus supra folii medium excurrens ...... 8. *D. macropus.*
Nervus fere ad apicem distinctus .... 9. *D. Mittenii.*
Nervus lævis.
Theca inclinata vel suberecta .... 10. *D. speciosum.*
Theca erecta .... 11. *D. Goudotii.*

Sect. 4. HEMICAMPYLUS. *Theca lævis, curvata. Peristomii dentes lati, basi coaliti, superne bifidi. Folia nitida.*

Folia nervo ultra medium evanido.............. 12. *D. imponens.*
Folia nervo continuo.
Folia longe anguste subulata................ 13. *D. robustum.*
Folia brevia, late subulata .... 14. *D. Billardieri.*

Sect. 5. EUDICRANUM. *Theca inæqualis, sicca plicata. Peristomii dentes lati, fissi.*

Folia perichætialia apicibus subulatis .... 15. *D. frigidum.*
Folia perichætialia apicibus breviter acuminatis .. 16. *D. rhabdocarpum.*
Folia perichætialia in subulam loriformem haud acutam ciliatam producta. 17. *D. lophoneuron.*

Sect. 6. PTYCHOTHECIUM. *Theca æqualis, plicata. Peristomii dentes dicrani, breviusculi.*

Florescentia monoica .... 18. *D. longisetum.*
Florescentia dioica .... 19. *D. vesiculare.*

Sect. 1. *Isocarpus.*

1. D. ANTARCTICUM (*C. Müll. Syn.* i. 344). Caulis cæspitosus, humilis. Folia longe anguste subulata, marginibus incurvis integerrimis, nervo percurrente lævi, cellulis inferne angustis superne ovalibus sensim in rotundas transeuntibus, alaribus fuscis ventricosis; perichætialia latissima, in cylindrum brevem imbricata, apicibus subulatis. Theca in pedunculo rubro elongato, oblonga, operculo subulato.

Weisia crispula, *Wils.*

Hab. Fuegia, Hermite Island, *J. D. Hooker.*

Caulis ½–1-uncialis. Folia juniora luteo-viridia, seniora nigrescentia. Pedunculus ½-uncialis.

Resembles very closely the *D. crispulum* (*Weisia*, Hedw.) of North America and Europe.

2. D. FASTIGIATUM (*Tayl.*). Caulis humilis, ramosus. Folia erecto-patentia, incurva, subulato-angustata, marginibus incurvis, nervo percurrente lævi, cellulis basi elongatis, superioribus rotundis, alaribus parum conspicuis; perichætialia basi late ovata, acuminata, in cylindrum brevem convoluta. Theca in pedunculo brevi, ovalis, suberecta, operculo subulato, peristomii dentibus brevibus rugulosis.

Hab. Andes Quitenses, in monte Pichincha, ad rupes prope apicem, *Jameson.*

Caulis ½–¾-uncialis, gracilis. Folia lutea, fuscescentia. Pedunculus 4-linearis.

3. D. CRYPTODON (*Mont. in Ann. Sc. Nat.* ser. 3. iv. 130, Weisia). Monoicum; caule fastigiatim ramoso. Folia patentia, anguste lanceolata, nervo percurrente carinata, marginibus erectis anguste recurvisve integerrimis, cellulis basi laxis ad angulos quadratis pellucidis, superioribus quadrato-rotundis obscuriusculis; perichætialia longiora latioraque, erecto-patentia, marginibus reflexis. Theca in pedunculo brevi, oblonga, erecta, peristomii dentibus brevibus rubris.

Hab. Chili australis, *Gay ex Herb. Montagne.*

Caulis 2–3-linearis. Folia sordide viridia, nigrescentia. Pedunculus 1½-linearis.

The specimens are incomplete, wanting in opercula as well as in peristomes; and unless there should prove to be some considerable difference in that organ this moss must be referred to *D. cirrhatum* (*Weisia*, auct.), which abounds in North-west America, and is common in Europe.

Sect. 2. *Holodontium.*

4. D. INERME (*Mitt.*). Caulis elongatus. Folia falcato-secunda, marginibus incurvis integerrimis, nervo lato supra medium laminæ indi-

stincto marginata, cellulis basi elongatis oblongisve, superioribus oblongis, alaribus copiosis oblongis fuscis valde ventricosis; perichætialia basi late ovalia, convoluta, nervis longe excurrentibus. Theca in pedunculo breviusculo, cylindracea, subinæqualis, operculo subulato.

Hab. Andes Quitenses, *Jameson.*

Caulis uncialis. Folia sordide viridia, fuscescentia. Pedunculus 4-linearis.

Differs from *D. antarcticum* in its more rigid obscure leaves, with a wider nerve, and copious alary cells occupying the whole width of the base, and not confined, as in that species, to the angles.

5. D. RAMULOSUM (*Mitt.*). Monoicum; caule brevi, ramis iterum iterumque ramosis fastigiatis. Folia erecto-patentia, striata, inferne ovato-lanceolata, subulata, anguste attenuata, nervo ultra medium a pagina indistincto lævi, integerrima, complicata, cellulis elongatis angustis, alaribus pluribus subconcoloribus quadratis; perichætialia convoluta, late ovalia, haud exserta, apicibus subulatis. Theca in pedunculo breviusculo, ovalis.

Hab. Fuegia, Hermite Island, in cacumine montis Foster, *J. D. Hooker.*

Caulis 3-linearis. Folia pallide viridia. Pedunculus 2-linearis.

6. D. PUMILUM (*Mitt.*). Folia erecto-patentia secunda falcatave, inferne elliptico-lanceolata, subulata, integerrima, nervo angusto superne excurrente, marginibus incurvis, cellulis basi angustis superne oblongis, alaribus pluribus quadratis fuscis; perichætialia interiora ovalia, convoluta, subulato-attenuata. Theca in pedunculo elongato, ovalis, suberecta, subæqualis, operculo subulato, peristomii dentibus lanceolato-subulatis. Flores masculi in ramorum apicibus, gemmiformes.

Hab. Fuegia, Hermite Island, *J. D. Hooker.*

Sect. 3. *Chorisodontium.*

7. D. ACIPHYLLUM (*Hook. fil. et Wils. Cryp. Antarct.* t. 52. f. 3). Caulis elongatus. Folia erecto-patentia, inferne elliptica, sensim longe angusteque subulato-attenuata, marginibus incurvis integerrimis, nervo lato superne a lamina indistincto, cellulis elongatis oblongisque, alaribus pluribus planis hyalinis fuscisque; perichætialia in cylindrum brevem convoluta, apicibus subulatis. Theca in pedunculo elongato, cylindracea, erecta, subæqualis, operculo subulato.

Hab. Fuegia, Hermite Island, ad terram in cæspitibus densis, *J. D. Hooker*; Magellan, Sandy Point, ad arborum truncos, *Lechler,* n. 1201.

Caulis 1½–4-uncialis. Folia angusta, stricta, e viridi fulvescentia. Pedunculus 8–9-linearis.

8. D. MACROPUS (*Kunze, C. Müll. Syn.* i. 374). Folia patentia, subsecunda, curvata, inferne elliptica, sensim longe angusteque subulata,

marginibus incurvis, nervo basi tertiam partem folii latitudinis occupante supra folii longitudinis medium excurrente canaliculato ubique scabro apice denticulato, cellulis inferioribus elongatis angustis, alaribus pluribus quadratis pallide fuscis teneris fragilibus; perichætialia comalibus breviora, inferne convoluta, apicibus angustis subulatis. Theca in pedunculo elongato, cylindracea, inclinata, operculo subulato, peristomii dentibus angustis aurantiacis ad basin liberis, cruribus angustis minute scabris.

Hab. Andes Chilenses, *Pœppig.*

Caulis uncialis. Folia 4-linearia, lutea, sicca parum mutata, subnitida. Pedunculus 9-linearis.

9. D. MITTENII (*C. Müll. Syn.* ii. 600). Caulis elongatus. Folia secunda, falcata, inferne ovato-lanceolata, sensim longe angusteque attenuata, marginibus incurvis canaliculata, superne minute serrulata, nervo lato obscuro paulo infra apicem a lamina indistincto, dorso minute denticulato, cellulis elongatis, superioribus obscuriusculis, alaribus pluribus per folii basis latitudinem dispositis parum ventricosis; perichætialia elongata, longe convoluta, apicibus subulatis angustis elongatis. Theca in pedunculo flexuoso erecta, oblonga, æqualis, operculo subulato, peristomii dentibus brevibus per lineam mediam plus minus fissis, cruribus rubris rugulosis.

D. erectum, *Mitt. in Hook. Kew Journ.* iii. 53.

Hab. Andes Quitenses, *Jameson,* in monte Tunguragua, *Spruce,* n. 66 *b.*

Caulis 3–4-uncialis. Folia 6-7-linearia, stramineo-fusca. Pedunculus 9-linearis.

10. D. SPECIOSUM (*Hook. et Wils. in Hook. Lond. Journ.* vi. 291, t. 11). Caulis elongatus. Folia patentia, inferne ovalia, sensim superne subulata, angustissime attenuata, marginibus incurvis canaliculata, apice serrulata, planiuscula, nervo latiusculo tenui superne indistincto sed a lamina discreto percursa, cellulis inferioribus elongatis angustis pellucidis, superioribus minoribus obscuratis sæpe in lineas descendentes dispositis, alaribus paucis; perichætialia in cylindrum elongatum convoluta, apicibus subulatis. Theca in pedunculo elongato, cylindracea, inclinata suberectave, operculo elongato subulato, peristomio parvo, dentibus brevibus subulatis per lineam mediam subfissis, inferne rubris, apicibus pallidis, infra os thecæ sessilibus.

Hab. in Nova Granata, *Purdie.* Andes Quitenses, Chimborazo, *Jameson*; Tunguragua (11,000 ped.), *Spruce,* n. 66.

Caulis in plantis altioribus 8-uncialis. Folia 6 lineas longa, fulva.

11. D. GOUDOTII (*Hampe in Ann. Sc. Nat.* ser. 5. iii. 365). Dioicum, laxe cæspitosum, gracile, sesquiunciale, basi fusco-tomentosum, rufescenti-viride. Caulis adscendenti-erectus, parce diviso-ramosus, interrupte tomentosus, laxe foliatus, apice parce falcatus vel comoso-erectus. Folia erecto-patentia, parum flexuoso-secunda, ovato-lanceolata, longe subulata, subula canaliculata, sicca tortili, summo apice cum nervo rufes-

cente striato percurrente confluente, parce denticulata, cellulis alaribus pentagono-quadratis lutescentibus, interstitiis fuscis receptis, in lamina elongatis linearibus, in subula condensatis ellipticis; folia tota lutescenti-diaphana; perichætialia convoluta, a basi oblongo-lanceolata concava subito lanceolato-subulata, subula breviore, nervo obsoleto. Seta erecta, subuncialis, apice tortilis. Theca erecta, ovato-elliptica, opaca, rubens, ore rubro, operculo conico-subulato suberecto flavescente; peristomii dentibus rubris brevibus lanceolatis apice fissis; calyptra fuscata.

Hab. Andes Bogotenses, Tolima in truncis, *Goudot*, n. 34.

D. interrupto aliquid æmulans sed robustius, inter *Dicrana orthocarpa* memorabile, caule masculo prolifero-ramoso, foliis latioribus.—*Hampe, l. c.*

Sect. 4. *Hemicampylus.*

12. D. IMPONENS (*Mont. in Ann. Sc. Nat.* ser. 2. xvi. 241). Caulis elongatus. Folia patentia, apicalia subsecunda, inferne ovato-lanceolata, sensim longe angustata, apice obtusa, marginibus incurvis tubulosa, integerrima, nervo angustissimo in medio folio evanido, cellulis elongatis angustis, alaribus quadratis fuscis pluribus planiusculis folii latitudinis basi $\frac{2}{3}$ occupantibus.

D. involutifolium, *Sulliv. in Hook. Kew Journ.* ii. 316.

Hab. Fuegia, Kater's Peak, *J. D. Hooker*; Magellan, York Bay, *Lechler*, n. 1350.

Caulis 4-uncialis. Folia straminea aureave, nitida, 4-linearia, apicibus sæpe diffractis.

13. D. ROBUSTUM (*Hook. f. et Wils. in Hook. Lond. Journ.* iii. 542; *Crypt. Antarct.* t. 152. f. 3). Caulis elongatus. Folia secunda, subfalcata, inferne subelliptica, sensim longe subulato-attenuata, marginibus incurvis apicem versus minute serrulatis, nervo angusto ubique a lamina distinctissimo dorso subdenticulato, cellulis elongatis ubique pellucidis, alaribus pluribus subventricosis folii basis latitudinis $\frac{2}{3}$ occupantibus; perichætialia elongata, in cylindrum angustum ad pedunculi breviusculi medium fere arcte convoluta, apicibus angustis. Theca oblonga, inclinata, basi callosa, operculo subulato, peristomii dentibus brevibus latiusculis.

Hab. Fuegia, in fretu Magellan, *Hall et M'Whinnie*; Hermite Island, *J. D. Hooker.*

Caulis 1–6-uncialis. Folia viridia, straminea, fuscescentia. Pedunculus 9-linearis.

14. D. BILLARDIERI (*Schwægr.* t. 121). Caulis elongatus, ramosus. Folia secunda, inferne ovato-lanceolata, sensim subulato-angustata, breviuscula, nervo angusto dorso apice dentato, marginibus incurvis apice serrulatis, cellulis elongatis angustis, alaribus pluribus quadratis fuscis subplanis folii basis latitudinis $\frac{2}{3}$ occupantibus; perichætialia elongata, in cylindrum convoluta, apicibus muticis retusis mucronatisve. Theca in

pedunculo elongato, valde arcuata, basi callosa, operculo longe subulato, peristomii dentibus rubris sæpe trifidis, cruribus angustis intus trabeculatis, basi in membranam brevem connexis.

Hab. Insula Juan Fernandez *ex Herb. Montagne*; in Peruvia, *Herb. Hooker*; Valdivia ad Arique, in arborum truncis, *Lechler*, n. 672.

Caulis 1–3-uncialis. Folia 3-linearia, aureo-fulva, nitida. Pedunculus subuncialis.

Sect. 5. *Eudicranum.*

15. D. FRIGIDUM (*C. Müll.*). Caulis elongatus, inferne tomentosus. Folia subsecunda, curvata, inferne elongato-elliptica, sensim superne angustata, subundulata, marginibus incurvis canaliculata, superne minute serrulata, nervo angusto sub summo apice evanido ubique a lamina distincto dorso apicem versus serrulato, cellulis elongatis carnosulis, alaribus pluribus fuscis subventricosis; perichætialia in cylindrum elongatum convoluta. Theca in pedunculo elongato, cylindracea, arcuata, operculo subulato, peristomii dentibus rubris brevibus basi in membranam brevem connexis.

D. validum, *Hampe in Linnæa*, xxxi. 522.

Hab. Andes Novo-Granatenses, Tequendama in sylvis (2500 met.), *Lindig*, n. 2015; in montibus prope Bogota (9000 ped.) inter frutices abundans, *Weir*, n. 210, etiam in Nova Granata, *Purdie*. Andes Quitenses, in monte Cayambe (11,000 ped.), *Jameson*, *Spruce*, n. 65.

Caulis 2–4-uncialis. Folia 4-linearia, aureo-fulvescentia. Pedunculus 1½-uncialis.

D. majori D. undulatoque simile, foliis autem illis *D. palustris* similioribus.

16. D. RHABDOCARPUM (*Sulliv. in Proceed. Amer. Acad.* 1849, t. 3). Caulis elongatus. Folia erecto-patentia, elliptica, breviter late subulata, apice obtusa, marginibus incurvis apice serrulatis, nervo angusto sub apice evanido, cellulis elongatis carnosulis, alaribus pluribus planiusculis; perichætialia erecta, late convoluta. Theca in pedunculo elongato rubro, oblonga, basi callosa, suberecta, operculo subulato.

Hab. Mexico, Oaxaca, in summo monte Orizaba, *Galeotti*, n. 6874.

Caulis 1½-uncialis. Folia 2-linearia, fulva, nitida. Pedunculus uncialis.

Very nearly resembling some states of the *D. palustre*, Brid., of North America and Europe.

17. D. LOPHONEURON (*C. Müll. Syn.* ii. 589). *D. undulato* maxime simile, sed folia in acumen longum loriforme margine grosse ciliato-serratum producta, e cellulis laxiusculis ubique parietibus interruptis firmioribus præditis, nunquam omnino chlorophyllo repletis composita, inferne integerrima et areolatione simili ei *D. undulati*, nervo ad acumen dorso crista grosse ciliato-serrata sublamellosa prædita; perichætialia a basi late vaginante convoluta laxe reticulata obtusa subito in subulam lori-

formem longam æqualem haud acutam minus et summo apice ciliato-serratam areolatione folii caulini præditam producta. Theca in perichætio exserto convoluto solitaria, in pedunculo elongato flexuoso rubro lævi.

Hab. Mexico prov. Mechoacan, Cerro San Andres, *Chrismar.*—*C. Müll. l. c.*

Sect. 6. *Ptychothecium.*

18. D. LONGISETUM (*Hook. Musc. Exot.* t. 139). Monoicum. Folia patentia, secunda, subfalcata, inferne angusta, sensim subulato-attenuata, rigida, nervo basi folii latitudinis tertiam partem occupante, superne canaliculato, apice serrulato, lamina infra medium folii longitudinis evanescente, cellulis basi ad nervum oblongis rectangulis subhyalinis, ad margines longioribus angustissimis limbum subindistinctum formantibus; perichætialia inferne convoluta, apicibus longe subulatis. Theca in pedunculo elongato gracili recto, elliptico-cylindracea, æqualis, operculo subulato, peristomii dentibus breviusculis sessilibus rubris, cruribus attenuatis minute scabris; calyptra ad thecæ medium descendens. Flores masculi in ramulorum brevissimorum lateribus gemmacei.

D. macrodon, *Hampe in Ann. Sc. Nat.* ser. 5. iii. 366; *non Hook.*

Hab. Venezuela, *Funck et Schlim.* n. 996; Columbia, *Moritz.* Andes Bogotenses, Fusagasuga, *Humboldt et Bonpland,* inter Tipaquira et Pacho (8700 ped.) in arboribus vetustis, *Weir,* n. 205; Tequendama, Guadelupe et monte del Morro (2300–3200 metr.), *Lindig.* Andes Quitenses, in monte Chimborazo, *Humboldt et Bonpland, Jameson;* in monte Cayambe, *Jameson*; in monte Tunguragua (9000 ped.), *Spruce,* n. 62.

Caulis ½–2-uncialis. Folia trilinearia, nitida, lutea, fulvescentia. Pedunculus ¾-uncialis.

19. D. VESICULARE (*Hampe in Ann. Sc. Nat.* ser. 5. v. 337). Dioicum, humile, vix unciale, flavescens, basi modice nigrescente tomentosum; caulis fertilis subsimplex, basi laxe foliatus, apice comosus, erectus, humilior, masculus gracilis elongatus uncialis. Folia subfalcata, flexuosa, comalia longiora, a basi concava lanceolato-subulata, subula canaliculata, apice parce dentata, nervo dilatato basi tertiam partem folii occupante striato subulam totam opacam obtegente, cellulis alaribus laxis maximis angulato-quadratis, luteis, interstitiis crassis fuscescentibus receptis, cellulis intermediis elongato-quadratis, lateralibus ellipticis, versus apicem sensim minoribus. Seta solitaria, flavescens, gracilis, erecta, subuncialis. Theca parva, anguste cylindrica, erecta, striata, sub ore rubro coarctata, operculo subulato thecam subæquante; calyptra longa, glabra, basi nuda, lutescens.—*Hampe, l. c.*

Hab. Andes Bogotenses, in sylvis Manzanos inter *Tayloriam* (2700 metr.), *Lindig.*

19. EUCAMPTODON, Mont. in Ann. Sc. Nat. ser. 3. iv. 120, t. 14. f. 3.

Musci cæspitosi, caulibus infra perichætium mox innovantibus. Folia latiuscula, nervo debili evanescente, cellulis elongatis, alaribus conspicuis; perichætialia erecta, convoluta, longe exserta. Thecæ cylindraceæ, longiuscule pedunculatæ, operculo subulato, peristomii dentibus brevibus. *Habitatio* in arborum cortice.

Folia non pilifera...........................	1. *E. perichætialis.*
Folia pilifera	2. *E. piliferus.*

1. E. PERICHÆTIALIS (*Mont. l. c.*). Monoicus, caulis humilis. Folia conferta, erecto-patentia, oblongo-lanceolata, acuminata, canaliculata, integerrima, nervo plus minus obsoleto, cellulis elongatis pachydermibus, alaribus planis pluribus quadratis pallide fuscis; perichætialia in cylindrum elongatum exsertum convoluta, apicibus subulatis. Theca in pedunculo breviusculo, oblonga, erecta subinclinatave, operculo subulato, peristomii dentibus integris. Flos masculus parvus, gemmiformis.

Hab. Chili australis ad terram, *C. Gay.*

2. E. PILIFERUS (*Mitt.*). Caulis inferne procumbens, superne erectus, ramosus, laxe cæspitosus. Folia tumide imbricata, elliptico-lanceolata, basi angusta, superne in acumen angustum piliforme apice canum attenuata, margine fere a basi involuta, versus apicem conniventi-convoluta, integerrima, nervo tenui angusto infra apicem evanido, cellulis alaribus fuscis ventricosis, superioribus angustis parietibus interruptis; perichætialia longissime exserta, convoluta, pedunculum fere ad thecæ basin usque obtegentes. Thecá cylindracea, operculo subulato, ore coarctato, peristomii dentibus brevibus fere ad basin in crura angusta divisis.

Hab. Ins. Trinidad, Margarita, Palma Real, *Crüger.*

Caulis unciam altus, cum foliis crassitudine 2–3-lineari. Folia $3\frac{1}{2}$ lineas longa, obscure fusca, nigricantia, lævia, inferne tumida, apicibus siccitate incurvo-contortis. Pedunculus 6 lineas longus. Theca $1\frac{1}{2}$-linearis, fusca.

20. PILOPOGON, Brid. i. 519.

Musci cæspitosi, caulibus elongatis, parce divisis. Folia angusta, subulata, rigida, mox nigrescentia, interdum hyalino-pilifera; perichætialia elongata, convoluta, longe exserta. Thecæ elongatæ, angustæ, inclinatæ, operculo subulato, peristomii dentibus angustis elongatis, calyptris elongatis. Flores dioici. *Habitatio* ad terram et rupes humidas.

Cellulæ alares nullæ.

Calyptra ad thecæ basin descendens	1. *P. calycinus.*
Calyptra ad thecæ medium descendens	2. *P. gracilis.*
Capsula brevior	3. *P. nanus.*

Cellulæ alares distinctæ.

Folia haud pilifera .... 4. *P. longirostratus.*
Folia hyalino-pilifera .... 5. *P. piliferus.*

1. P. CALYCINUS (*Schimp.*; *C. Müll. Syn.* ii. 586). Caulis gracilis, e basi decumbente erectus, rigidulus, fragilis. Folia conferta, erecta, subflexuosa, lanceolato-subulata, ad subulam integra vel apice denticulata, nervo lato dorso canaliculato; perichætialia e basi vaginante subulata, intima in aristam longissimam producta. Theca in pedunculo stricto stramineo subunciali erecta, anguste cylindracea, tenuiter membranacea, operculo rubello rectirostro, calyptra basi fimbriata ad thecæ basin producta; peristomii dentes æquidistantes, subulati, articulationibus et linea divisurali vix conspicuis; sporæ minutæ, læves.—*C. Müll. l. c.*

Hab. Mexico, Laguna Taleo, *Liebmann.*

2. P. GRACILIS (*Hook. Musc. Exot.* t. 5, Didymodon). Caulis plus minus elongatus. Folia erecta, appressa, anguste lanceolata, sensim anguste subulata, marginibus incurvis, nervo lato inferne folii latitudinis tertiam partem occupante, supra medium a folii lamina indistincto, apice denticulato, cellulis ad basin paucis oblongis laxioribus, alaribus distinctis nullis, inde angustissimis elongatis, superioribus brevioribus; perichætialia basi prælonga, arcte convoluta, nervo longe excurrente erecto, apice angusto serrulato. Theca in pedunculo elongato gracillimo pallido superne papuloso-scabro, cylindracea, inclinata, subcurvata, operculo subulato recto, peristomii dentibus angustis elongatis filiformibus pallidis; calyptra ad thecæ medium descendens, basi longe fimbriata.

Hab. Andes Quitenses ad pedem montis Tunguragua prope Banos, *Spruce*, n. 46, prope Quito, *Jameson.* Andes Bogotenses, Bogota in Boqueron locis humidis (9000 ped.), *Weir*, n. 182; Paramo inter Tipaquira et Pacho (9000 ped.), *Weir*, n. 206, 213, et (7500 ped.) *Weir*, n. 249; Paramo inter Bogota et Choachi (10,000 ped.), *Weir*, n. 410, et in locis plurimis (2200–3000 metr.), *Lindig.* Ins. Guadelupe, *Parker*; Jamaica, in monte St. Andrew, *Purdie.*

Caulis 1–4-uncialis. Folia luteo-viridia, nitida, seniora fusca. Pedunculus ½-uncialis. Theca linearis.

3. P. NANUS (*Hampe in Linnæa*, xxxii. 137). "Ab *P. gracili* differt caule humiliore rigido, foliis brevioribus et solidioribus opacis, nervo prominente crassiore setisque brevioribus, foliis perichætialibus thecam breviorem subattingentibus."

Hab. Andes Bogotenses, Bogota los Laches ad latera convallium "Barrancas" dictarum (2800 met.), et Guadelupe (3200 metr.), *Lindig.*

"An varietas *P. piliferi*?" suspicat auctor in Ann. Sc. Nat. ser. 5. iii. 362.

4. P. LONGIROSTRATUS (*Mitt.*). Caulis elongatus, ramosus. Folia patentia, a basi latiore lanceolata sensim attenuata, angusta, nervo lato

percurrente partem superiorem fere totam occupante, canaliculato, apice parce denticulato, dorso subscabro, cellulis basi angustis in rotundatas sensim transeuntibus, alaribus in auriculo satis magno dispositis fuscis; perichætialia interiora caulinis duplo longiora, late convoluta, nervo longe excurrente. Theca in pedunculo gracili pallido, ovalis, inclinata, operculo recto subulato quam theca longiore, peristomii dentibus thecæ longitudinis filiformibus dense granulosis; calyptra thecam fere ad basin tegens fimbriata.

Hab. Andes Quitenses, in valle Pastasa, ad pedem montis Tunguragua (7000 ped.), *Spruce*, n. 47.

Caulis 2-uncialis.

5. P. PILIFERUS (*Hampe in Ann. Sc. Nat.* ser. 5. iii. 362). Humilis, 1–1½-uncialis, fusco-lutescens, nitidus; caulis subcompressus, erectus, basi attenuatus fusco-nigricans, superne diviso-ramosus lutescens, ramis attenuatis vel comosis. Folia undique imbricata, arcte appressa, erecta vel erecto-patentia, inferiora oblongo-lanceolato-acuminata, apice canaliculata, integerrima, superiora comalia, apice canaliculato hyalina, pilifera, pilo serrato dentato, nervo dilatato striato rufescente basi tertiam partem folii occupante, subulam fere totam obtegente, cellulis alaribus anguste pentagonis ellipticis rufescenti-diaphanis, lateralibus tenuioribus brevioribus subhyalinis noduloso-clausis, cæteris ad marginem superiorem anguste ellipticis rufescenti-diaphanis, in subula condensatis opacis; perichætialia convoluta, e basi latiore subito longe subulata, apice pilo hyalino striato-dentato instructa. Seta gracilis, exserta, erecta. Theca subcylindrica, erecta, operculo subulato thecam dimidiam superante.—*Hampe, l. c.*

Hab. Andes Bogotenses, Bogota, Boqueron (2800 metr.), in siccioribus, *Lindig*.

Var. prolifero-comosus. Bogota, Tequendama (2800 metr.), *Lindig*.

21. ATRACTYLOCARPUS, gen. nov.

A. MEXICANUS (*Mitt.*). Monoicus, late cæspitosus; caulis brevis, ramosus. Folia secunda, falcata, angusta, subulata, sensim elongato-attenuata, nervo basi ¾ folii latitudinis occupante, supra folii medium canaliculato, a lamina haud distincto, apice subdenticulato, cellulis basi latis oblongis pellucidis sensim superne in elongatas angustas transeuntibus, alaribus pluribus pallide fuscis fragilibus; perichætialia elongata, inferne longe ovalia, convoluta, subulata, longe attenuata, erectiuscula. Theca in pedunculo elongato pallido, angusta, elongata, cylindracea, erecta, subæqualis, operculo subulato recto, peristomii dentibus ad basin in crura elongata filiformia rubra rugulosa punctulata divisis; calyptra elongata.

Hab. Mexico boreali-occidentalis, Sierra Madre, *Seemann*, n. 1924.

Caulis 3-linearis. Folia pallide straminea, nitida. Pedunculus 4-linearis. Theca linearis.

22. CAMPYLOPUS, Brid. i. 468.

Musci caulibus plus minus elongatis parum dichotome divisis. Folia canaliculata, nitida vel obscura, nervis validis latis, interdum hyalino-piliferis, cellulis lævibus, alaribus distinctis vel obsoletis; perichætialia inferne convoluta, inconspicua. Thecæ in pedunculo breviusculo madefacto flexo pendulæ, inter folia capituli sæpe latitantes, ore sæpe obliquo basi sæpe calloso, operculo rostrato, peristomii dentibus latis ad medium usque bifidis. Flores dioici, masculis pluribus in capitulis minoribus congestis. Calyptra basi fimbriata vel nuda. *Habitatio* ad terram et rupes etiam ad ligna putrida.

Sect. 1. PLAGIOCARPUS. *Theca plicata, inæqualis. Folia nervis firmis, cellulis alaribus sæpe conspicuis.*

Folia interrupta, caulina appressa, comalia patentia, apicibus concoloribus.
  Folia comalia secunda.
    Calyptra basi nuda.
      Folia lanceolato-subulata .... 1. *C. filicaulis.*
      Folia a basi latiore suboblonga, erecta, subulata. 2. *C. pauper.*
      Folia lanceolato-subulata, longa, capillaria. 3. *C. propinquus.*
    Calyptra basi fimbriata.
      Folia angustissime attenuata, elongata .. 4. *C. porphyreodictyon.*
      Folia basi latiuscula, lanceolato-subulata. 5. *C. leucogaster.*
      Folia lanceolato-subulata .... 6. *C. humilis.*
      Folia anguste lanceolata, sensim subulata. 7. *C. filifolius.*
      Folia e basi lata vaginante brevi subito subulata. 8. *C. cygneus.*
  Folia comalia stricta.
    Cellulæ alares conspicuæ.
      Folia brevilanceolata .... 9. *C. flagellaceus.*
      Folia brevia, perfecte lanceolata .... 10. *C. guadelupensis.*
      Folia anguste lanceolato-subulata ...... 11. *C. heterophyllus.*
      Folia a basi sensim angustata .... 12. *C. arenicola.*
      Folia lanceolato-subulata, setacea ...... 13. *C. chrysodictyon.*
      Folia brevia, oblongo-lanceolato-subulata. 14. *C. lamprodictyon.*
      Folia lanceolato-subulata .... 15. *C. rosulatus.*
      Folia anguste lanceolata, sensim subulata. 16. *C. asperifolius.*
      Folia anguste lanceolata, breviuscula .... 17. *C. trachyblepharon.*
      Folia anguste lanceolata, longe subulata. 18. *C. macrophyllus.*
    Cellulæ alares inconspicuæ.
      Folia anguste elliptica, basi truncata, superne sensim subulata, nervo latissimo .... 19. *C. annotinus.*

Folia a basi sublanceolata sensim subulata, nervo latissimo.
20. *C. chionophilus.*
Folia anguste lanceolato-subulata, brevia, nervo latissimo.
21. *C. Œrstedianus.*
Folia breviuscula, lanceolato-subulata, nervo angustiore.
22. *C. brachyphyllus.*
Folia per caulis longitudinem æqualia, apicibus concoloribus.
Folia absque nitore, obscure viridia, nigricantia. 23. *C. Sprucei.*
Folia absque nitore, e viridi straminea, fuscescentia.
24. *C. lamellinervis.*
Folia nitida, ovato-lanceolata, sensim longe subulata.
25. *C. jamaicensis.*
Folia nitida, a basi sensim longe subulata.... 26. *C. concolor.*
Folia comalia apicibus hyalinis.
Folia caulina erecta, appressa.............. 27. *C. gracilicaulis.*
Folia caulina patentia, a basi infima sensim angustata, longe subulata.
28. *C. exustus.*
Folia caulina patentia, lanceolato-subulata .. 29. *C. Gardneri.*
Folia caulina appressa, anguste lanceolata, fere omnia pilifera.
30. *C. introflexus.*
Folia caulina julaceo-appressa, breviuscula, cymbiformi-lanceolata.
31. *C. proliferus.*
Folia caulina horride scoparia, lanceolato-subulata.
32. *C. savannarum.*
Folia caulina patentia, inferne elliptica, sensim subulata, nervo latissimo.
33. *C. chilensis.*

Sect. 2. HOMALOCARPUS. *Theca plicata, æqualis. Folia nervis sæpe laxe areolatis, cellulis alaribus inconspicuis.*

Folia apicibus concoloribus.
Calyptra basi nuda.
Folia inferne anguste oblongo-lanceolata, inde subulata.
34. *C. areodictyon.*
Folia a basi latiore ovato-lanceolata, subulata.
35. *C. subconcolor.*
Folia a basi elliptica sensim subulata .... 36. *C. scabrellus.*
Folia a basi erectiore subovata sensim angustata.
37. *C. occultus.*
Folia inferne subovata basi truncata, superne sensim subulata.
38. *C. acervatus.*
Calyptra basi fimbriata.
Folia a basi latiore longe subulata ...... 39. *C. cavifolius.*
Folia elliptico-lanceolata, subulata ...... 40. *C. arctocarpus.*
Folia a basi oblonga erectiore subvaginante subulata.
41. *C. fimbriatus.*

Folia elongate lanceolata .... 42. *C. Chrismari.*
Folia a basi latiuscula lanceolato-subulata . 43. *C. Widgrenii.*
Folia a basi latiuscula sensim longe subulata.
44. *C. incrassatus.*
Folia apicibus hyalinis..................... 45. *C. erectus.*

Sect. 3. THYSANOMITRIUM. *Theca lævis.*
Caulis tenuissimus, filiformis, subjulaceus .... 46. *C. surinamensis.*
Folia subimbricata, elliptico-oblonga.......... 47. *C. acuminatus.*
Folia patentia, oblongo-lanceolata............ 48. *C. cuspidatus.*
Folia erecto-patentia, elliptica, breviter subulata. 49. *C. Richardi.*
Folia patentia, elliptica, longe subulata........ 50. *C. leptodus.*
Folia erecto-patentia, lineari-subulata .... 51. *C. lævis.*

Sect. 1. *Plagiocarpus.*

1. C. FILICAULIS (*Hampe in Ann. Sc. Nat.* ser. 5. v. 337, Dicranum). Caulis filiformis, $1\frac{1}{2}$-2-uncialis, superne comoso-capitatus, lutescens, basi parce tomentosus. Folia caulina appressa, humida, erecta, stricta, lanceolato-subulata, subula brevi canaliculata, apice dentata vel subintegerrima, nervo striato griseo basi tertiam partem folii subulamque fere totam occupante, cellulis alaribus elongato-quadratis crassis pellucidis, secundis linearibus angustis, versus apicem abbreviatis sensim minoribus et densioribus elliptico-angulatis, lamina lutescenti-diaphana; folia comalia longiora, erecta, flexuosa, apice magis dentata structura interna simillima. Seta brevis, crassa, nitida, concolor. Theca cygnicollis, curvata, basi callosa, operculo brevi conico acuto recto, calyptra basi truncata.—*Hampe, l. c.*

Hab. Andes Bogotenses, in sylvis Manzanos inter *Polytrichum* (2700 metr.), *Lindig.*

C. leucogastro C. Müll. affinis, sed nervo angustiore et foliis minus dentatis diversus.—*Hampe, l. c.*

2. C. PAUPER (*Hampe in Linnæa,* xxxii. 137, Dicranum). Caulis gracilis innovans, radicellis rufis. Folia a basi latiore suboblonga cauli appressa subulata erecto-patentia, superne canaliculata, apice tantum parce denticulata, nervo basi folii latitudinis $\frac{3}{4}$, subulam fere totam occupante, cellulis in parte erecta elongatis, ad angulos anguste decurrentes rufescentibus, cæteroquin alaribus nullis, superioribus parvis obscuris oblongis brevioribusque; perichætialia interna e basi late ovali convoluta subito in subulam angustam elongatam producta, apice distinctius serrulata. Theca ovalis, basi apophysi parva substrumosa, operculo curvirostro, peristomii dentibus aurantiacis, cruribus angustis pallidis.

Hab. Andes Bogotenses, in sylvis prope cataractam Tequendama (6600 ped.), *Weir,* n. 240; Manzanos, in sylvis ad terram (2700 metr.), *Lindig,* n. 2013.

Caulis uncialis. Folia straminea, nitida. Pedunculus 4-linearis. *C. filifolio* subsimilis.

3. C. PROPINQUUS (*Hampe in Ann. Sc. Nat.* ser. 5. iii. 367, Dicranum). Dense pulvinatim cæspitosus, humilis, rufescenti-lutescens; caulis basi fusco-tomentosus, erectus, parce attenuatus, superne ramosus, fastigiatus. Folia longa, capillaria, erecto-patentia, flexuosa, superiora latiora et longiora comosa, parce secunda, caulina lanceolato-subulata, elongata, canaliculata, apice plus minusve spinuloso-dentata, nervo et structura interna *C. pauperi* similia. Seta paulo longior; theca magis gibbosa, deoperculata corrugata cylindracea, evidenter strumulosa, operculo longiore, dentibus peristomii lanceolatis basi sanguineis apice hyalinis fere ad medium fissis.

Hab. Andes Bogotenses, in sylvis Manzanos (2700 metr.), in convallibus Barrancas dictis, *Lindig*, n. 2119.

C. pauperi maxime affinis, caule graciliore, foliis longioribus capillaceis, theca magis strumulosa et operculo longiore differt.—*Hampe, l. c.*

4. C. PORPHYREODICTYON (*C. Müll. Syn.* i. 395, Dicranum). Caules laxe cæspitosi, humiles. Folia patentia, a basi cellulis alaribus pluribus rubris in auriculis congestis latiore sensim angustata, apicem versus margine dorsoque serrulata, nervo basi ⅓ folii latitudinis occupante, usque ad apicem fere a folii lamina angustissima distincto, cellulis parvis oblongis areolata; perichætialia a basi oblongo-elliptica breviuscula convoluta subulata, elongata. Theca in pedunculo mediocri, ovalis, horizontalis, curvata, basi strumosa, operculo subulato, peristomii dentibus cruribus anguste attenuatis.

C. microstomus, *Mitt. in Spruce Cat.*

C. tenuissimus, *Sulliv. in Proceed. Amer. Acad.* 1861.

Hab. Ins. Jamaica, *Purdie*; Cuba, *Wright*, n. 40; Trinidad, *Crüger*. Columbia, Silla de Caracas, *Moritz*, n. 144 *a*; Nova Granata (1400 metr.), *Lindig*. Andes Bogotenses ad ligna emortua in sylvis secus flumen Sogamoza (6000 ped.), *Weir*, n. 166. Andes Peruvianæ in monte Guayrapurina, *Spruce*, n. 55; in monte Potrero, *Spruce*, n. 61 *b*; in monte Campana ad terram et ad saxa in sylvis humidis plagas latas efformans, *Spruce*, n. 61. Brasilia tropica, *Barchell*; prope Corritiba in sylvis humidis ad ligna putrida (2000 ped.), *Weir*, n. 109.

Caules vix uncia altiores. Folia 4 lineas longa, in apicibus caulium interdum subsecunda. Pedunculus ½-uncialis, siccus erectus.

5. C. LEUCOGASTER (*C. Müll. Syn.* i. 387, Dicranum). Erectus, elatiusculus, simplicissimus, veluti caudatus, flexuosus, mollis, flaccidus, flavescens, gracilis, subfiliformis sed laxifolius. Folia caulina subappressa, apice in comam longiusculam erectam patulam parvam congesta, erecto-patentia, a basi latiuscula lanceolato-subulata, parum curvata, summo apice

dorso et margine serrulata, cæterum lævissima tenera, cellulis alaribus valde laxis magnis et maxime ventricosis albis tenerrimis, basi e cellulis laxis teneris, superne minutissimis areolata, nervo latissimo folii partem totam fere superam occupante prædita.—*C. Müll. l. c.*

Hab. Mexico, prope Xalapa, *Deppe et Schiede.*

Caulibus caudatis *C. porphyreodictyo* similis, notis autem illustratis ab omnibus congeneribus differt. Forsan caulibus dimorphis.—*C. Müll. l. c.*

6. C. HUMILIS (*Mont. in Ann. Sc. Nat.* ser. 3. iv. 110). Caulis vix ullus, basi decumbens. Folia dense imbricata, fulva, lanceolato-subulata, falcato-secunda, nervo tenui, apice denticulata. Theca obovata, madida brevis, sicca tenuissime striatula; calyptra basi albo-fimbriata.

Hab. Brasilia, ad ligna putrida, *Blanchet.*

7. C. FILIFOLIUS (*Hornsch. in Mart. Fl. Bras. Musc.* 12, Dicranum). Caulis gracilis, interrupte foliatus. Folia patentia secundave, inferne anguste lanceolata, sensim subulata, nervo inferne folii latitudinis ⅓ occupante, ad apicem usque a lamina superne crebre serrulata distincto, marginato, dorso denticulato, cellulis basi concoloribus paucissimis elongatis, superioribus ovalibus, alaribus copiosis ventricosis basin totam occupantibus; perichætialia inferne convoluta, longe subulato-angustata, serrulata. Theca in pedunculo brevi, subobovata, curvata, basi substrumosa, ore obliquo, operculo rostrato; calyptra ad thecæ medium descendens.

C. cubensis, *Sulliv. in Proceed. Amer. Acad.* Aug. 1861.

Hab. Brasilia, in monte Corcovado, *Gardner,* n. 24, *Lobb.* Ins. Cuba, *Wright,* n. 39.

Caulis uncialis, interrupte comoso-foliatus. Folia fulvo-straminea, fuscescentia. Pedunculus 3–4-linearis.

C. cygneo simillimus, sed foliis minus attenuatis.

8. C. CYGNEUS (*Hedw. Sp. Musc.* t. 37, Dicranum). Gracillimus, simplex, flexuosus, flaccidus, remotifolius, e flavo fuscescens radiculosus nec villosus, fertilis innovatione subcomosa laterali reflexa brevi præditus. Folia caulina laxissime patentia, valde tenuia, ad latera omnia spectantia nonnulla vix secunda, e basi late amplexicauli brevi subito in subulam elongatam angustissimam apice obsolete denticulatam flexuosam producta, canaliculata, nervo lato reticulato lævi subulam totam occupante percursa, ad basin e cellulis parvis densis fuscescentibus, ad alas basilares multis laxissimis fuscis dein marcescentibus hyalinis ventricose dispositis areolata; perichætialia multo robustiora et longius vaginantia, acuminato-subulata. Thecæ 1–2 terminales, in pedunculo longiusculo lævi rubro porrecto, humore eleganter cygneo-arcuato, rectæ, parvæ, turgide gibboso-ovales, basi substrumosæ, operculis conico-subulatis, dentibus apice fissis.—*C. Müll. in Bot. Zeit.* 1856, 417.

Hab. Ins. Hispaniola, in montibus "des Grandes Anses" dictis, *Swartz.*

"Diagnosin meliorem e sp. Swartzianis authenticis duximus. Planta tenella *D. denudato,* foliis heteromallis exceptis, habitu proximum."—*C. Müll. l. c.*

9. C. FLAGELLACEUS (*C. Müll. Syn.* ii. 597, Dicranum). Humilis, dense compactus, strictus, gracilis, ob flagella multa gracilia filiformia tenerrima fragilia stricta habitum setosum sistens, sericeus. Folia caulina laxe imbricata, siccitate et madore appressa, brevia, lanceolata, cymbiformi-concava, summo apice parce denticulato terminata, strictissima, margine erecto, nervo latissimo planissimo lævissimo paginam folii superiorem totam occupante, cellulis parvis subquadratis mollibus chlorophyllosis, alaribus multis laxis planis fuscis.—*C. Müll. l. c.*

Hab. Mexico, prope Mechoacan, Cerro San Andres, *v. Chrismar.*

A *Dicrano flagellari* primo visu cæspitibus compactis nervoque *Campylopodis* lato, a Campylopodibus omnibus flagellis descriptis differt.—*C. Müll. l. c.*

10. C. GUADELUPENSIS (*Brid.* i. 463, Dicranum). Cæspitosus sed laxe cohærens, simplicissimus, strictus, rigidus, subhumilis, parce tomentosus, flavescens, inferne gracilis filiformis, superne patulo-comosus. Folia caulina erecto-appressa, stricta, brevia, perfecte lanceolata, dorso vix lamellosa, concava, latinervia, summo apice denticulata, cellulis alaribus subventricosis perfecte conspicuis teneris fuscidulis, inferne e cellulis subquadratis superne minutissimis areolata. Flos masculus compositus. Folia perigonialia externa lato-convoluta sublonge acuminata, integerrima, tenuinervia, intima obtusiuscula haud acuminata obsoletinervia, omnia colorata.—*C. Müll. l. c.*

Hab. Ins. Guadelupe, *Badier et Bertero.*

11. C. HETEROPHYLLUS (*Mitt.*). Caulis innovans. Folia erecto-patentia, subrecurva, inæqualia, anguste lanceolato-subulata, canaliculata, nervo inferne folii latitudinis $\frac{2}{4}$ occupante, lamina fere ad apicem usque distincta ibique serrulata, cellulis basilaribus paucis oblongis, superioribus omnibus abbreviatis rotundis, alaribus rubris subventricosis basin totam occupantibus; perichætialia inferne late convoluta, apicibus longe subulatis attenuatis serrulatis. Theca ovalis, ore obliquo, operculo oblique rostrato; calyptra thecam ad medium obtegens.

Hab. Andes Bogotenses, in montibus inter Bucumaranga et Pamplona (7000 ped.), *Weir,* n. 347.

Caulis uncialis. Folia pallide viridia. *C. concolori* similis, foliis autem brevioribus, minus serrulatis, iterum iterumque comosis, siccitate erectis, minus nitentibus.

12. C. ARENICOLA (*C. Müll. in Bot. Zeit.* 1855, 762, Dicranum). Cæspites laxissime cohærentes, maxime extensi, flavescentes; caulis strictissimus subuncialis, rigidissimus, simplex et inferne nudiusculus, apice ramulis fertilibus brevissimis multis incrassatus, ad apicem usque tomento rufo crassus, masculus innovando in comam strictam cuspidatam pro-

ductus. Folia caulina brevia, stricta, robusta, lato-lanceolata, concava, æqualia, margine erecto, apice dentato, nervo dimidium folium occupante brevissime lamelloso excurrente, cellulis alaribus parum ventricosis laxis fuscis marcescentibus, vicinis rectangularibus et ad nervum elongatis, apicem versus sensim minoribus quadratis incrassatis; perichætialia e basi longa vaginante laxe reticulata in subulam elongatam aristatam flexuosam margine et dorso serrulatam producta. Theca in pedunculo flavo brevi cernuo, oblonga, gibbosa, strumosa, turgescens, brevis, sicca striata, operculo conico acuminato recto, annulo lato.—*C. Müll. l. c.*

Hab. Brasilia, vulgaris in littorali insulæ Sanctæ Catharinæ, arena maritima usque ad apicem obtectus, ad oram fluminis Itajahi versus Itapacordiam; in fruticetis solum fructifer mensibus Junii et Julii, *Pabst*; in arenosis portæ d'Estrellæ, *Beyrich ex Hornschuch* sub nomine *C. concoloris* Hook.; etiam in Brasilia, *Lobb. et Gardner.*

Planta mascula apice flores permultos discoideo-dispositos minutos gemmaceos exserens, e basi floris innovans. Folia perigonialia late ovata subconvolutacea, breviter obtusiuscule acuminata, apice subdenticulata, sublaxe reticulata, virentia, nervo subtereti vix lamelloso valido excurrente. Antheridia magna, turgida, paraphysibus destituta.—*C. Müll. l. c.*

13. C. CHRYSODICTYON (*Hampe in Ann. Sc. Nat.* ser. 5. v. 338, Dicranum). Flavescens, tandem nitore rufescenti-aureo insignis, strictiusculus, sesquiuncialis, gracilis; caulis basi attenuatus sæpe proliferus julaceus, superne comosus. Folia caulina erecta, subappressa, laxe imbricata, comalia congesta longiora patenti-erecta, falcato-flexa, lanceolato-subulata, canaliculato-setacea, apice plus minusve denticulata, nervo dilatato latissimo griseo striato, e cellulis rectangularibus formato, basi tertiam partem superne subulam totam occupante, cellulis foliorum alaribus laxis intense aureis diaphanis, sequentibus rectangularibus, lateralibus linearibus tenuioribus ad latera superiora abbreviatis. Setæ 1–5, semiunciales, flexuosæ, adscendentes, humidæ torquescentes. Theca dura, cornea, curvata, oblique obovata, parva, basi strumulosa, evidenter sulcata, operculo conico-subulato rubro brevi, peristomii dentibus lanceolatis sanguineis supra medium bifidis, cruribus elongatis capillaribus pallescentibus glabris; calyptra brevis.—*Hampe, l. c.*

Hab. Andes Bogotenses, Bogota, Tequendama (2500 metr.), *Lindig.*

A *C. porphyreodictyo* differt foliis brevioribus, cellulis alaribus aureis. Theca cornea, operculo breviore et peristomii dentibus elongatis, cruribus capillaribus glabris nec rugulosis.—*Hempe, l. c.*

14. C. LAMPRODICTYON (*Hampe in Ann. Sc. Nat.* ser. 5. v. 131, Dicranum). Rufescenti-nitens, uncialis vel paulo altior, inferne fuscatus, parce fibrillosus; caulis suberectus attenuato-julaceus, apice capitato-comosus, interdum ramulo angusto caudatus. Folia caulina subappressa, imbricata, comalia capitato-congesta, erecto-patula, parum flexuosa, oblongo-lanceolato-subulata, brevia, subintegerrima, nervo lato solido tertiam

partem folii basis, subulam vero canaliculatam opacam totam occupante percursa, foliorum cellulis alaribus vesiculosis limpido-hyalinis teneris, sequentibus densioribus subquadratis, lutescenti-diaphanis, versus apicem folii sensim minoribus, lateralibus ellipticis; folia perichætialia breviora, ovato-lanceolata, brevius subulata, subintegerrima. Setæ 1–4, breves, flavescentes. Theca brevis, ovata, curvata, modice striata, strumulosa, pallide rubens, minus dura, operculo brevi conico-rostrato rubro, peristomii dentibus solidis dense trabeculatis apice bifidis cruentis annulo maximo circumdato; calyptra brevis, dimidiam thecam vix attingens. —*Hampe, l. c.*

Hab. Andes Bogotenses, Cipacon (2600 metr.), *Lindig.*

A *C. chrysodictyo* differt colore rufescente, foliis brevioribus subintegerrimis, nervo solido et cellulis alaribus teneris hyalinis.—*Hampe, l. c.*

15. C. ROSULATUS (*Hampe in Linnæa,* xxxii. 139, Dicranum). Uncialis vel biuncialis, flavescens, demum rufescens; caulis strictiusculus, basi parcius fusco-tomentosus, attenuatus, simplex vel prolifero-elongatus, superne rosulato-capitatus, ramis brevibus paucis interdum auctus. Folia undique dense imbricata, appressa, floralia patenti-erecta, caulina lanceolata, convoluta, subulata, apice parce dentata, nervo latissimo striato tertiam partem folii basis, subulam vero totam occupante, cellulis alaribus laxis, interstitiis crassis lutescentibus ad latera linearibus, versus apicem condensatis parvis ellipticis incrassatis demum cum nervo conflatis subopacis; folia floralia latiora, nervo angustiore cellulisque paulo laxioribus, in cæteris conformia. Setæ aggregatæ, breves, emergentes, lutescentes. Thecæ parum curvatæ, oblique oblongo-cylindricæ, striatæ, basi strumulosæ, inter folia reconditæ, evacuatæ sub ore constrictæ, emersæ, operculo rostrato dimidiæ thecæ longitudine, calyptra pallescente medium thecæat tingente, dentibus peristomii solidis fere ad dimidium fissis purpurascentibus.

Hab. Nova Granata, Bogota, La Penna ad terram (2900 met.), *Lindig.*

Ex habitu *C. exasperato* accedens inter *Campylopodes* haud piliferos singularis, magis formis majoribus *C. introflexi* consors, sed subula viridi discernendus.—*Hampe, l. c.*

16. C. ASPERIFOLIUS (*Mitt.*). Caulis gracilis, elongatus. Folia laxe inserta, patenti-divergentia, inferne angusto-lanceolata, sensim subulata, concava, nervo inferne folii latitudinis $\frac{3}{4}$ occupante, lamina angusta supra medium folii longitudinis obsoleta, marginibus ab apice fere usque ad basin minute serrulatis, nervo dorso lamellis angustis serrulato, cellulis omnibus concoloribus elongatis angustis pachydermibus, alaribus pluribus fuscis basin totam occupantibus.

Hab. Andes Quitenses, Abitagua (7000 ped.), *Spruce,* n. 54. Andes Chilenses, Tatanara, *Lechler,* n. 2627.

Caulis 1–2-uncialis. Folia juniora lutea, seniora castanea directione vel sicca vel madida immutata.

17. C. **TRACHYBLEPHARON** (*C. Müll. Syn.* i. 389, Dicranum). Erectus, strictus, interrupte comosus, rigidus, valde tomentosus, subsimplex vel breviter ramosus. Folia caulina erecto-patentia, sicca subappressa, breviuscula, paulisper recurva, anguste lanceolata acuta, e cellulis ubique minutis rotundatis basi quadratis areolata, cellulis alaribus ventricosis fuscidulis mollibus, nervo lato canaliculato lamelloso prædita, apice margine et dorso valde serrata; perichætialia vaginantia, longe flexuosa et firmo-setacea, inferne elongate laxiuscule areolata, nervo basi tenui elamelloso apicem versus latiore lamelloso prædita, haud cylindraceo-congesta, superne margine et dorso serrata. Theca ovalis, gibbosa, basi strumulosa, olivacea, subsulcata, operculo conico subulato recto fusco; peristomio *C. lamellinervis*; calyptra ciliis permultis albis nodosis flexuosis longiusculis.—*C. Müll. l. c.*

Hab. Brasilia.

Ex habitu *C. clavato* proximus, *C. lamellinervi* e nervo lamelloso magis, quoad staturam minus affinis.—*C. Müll. l. c.*

18. C. **MACROPHYLLUS** (*Kunze*; *C. Müll. Syn.* i. 402, Dicranum). Tenellus, gracillimus, crispatus, nudus sed tomentosus, flaccidus, apice tantum sparse comosus, innovationibus proliferis similibus supremis caudatis subgeniculato-elongatus, igitur interrupte foliosus, sordide viridis. Folia caulina anguste lanceolata, longe subulata, subfalcata, latissime nervosa canaliculata, cellulis alaribus magnis fuscidulis ventricosis diaphanis, basi e cellulis sublongis angustis viridibus teneris, superne minutissimis areolata, dorso scabra, margine apicem versus denticulata; perichætialia similia, patula, vaginantia, sensim longe subulata. Theca in pedunculo sicco stricto humido apice arcuato, cylindrica, valde curvata, basi strumulosa, superne incrassata, ore dilatata haud sulcata, lævissima, operculo conico subulato subrecto; peristomium *C. filifolii*; calyptra breviter parce et inæqualiter ciliata.—*C. Müll. l. c.*

Hab. Peru, ad Chuchero, *Pœppig Coll.* 3. no. 213.

C. filifolio simillimum.—*C. Müll. l. c.*

19. C. **ANNOTINUS** (*Mitt.*). Gracilis; caulis elongatus, inferne rubro-tomentosus, apice apicibusque innovationum comosis. Folia caulina erecto-patentia, anguste elliptica, basi truncata, superne sensim subulata, nervo concavo inferne folii latitudinis $\frac{3}{4}$ occupante, supra medium a pagina excurrente tenuiter angustato serrulato, cellulis alaribus rubro-fuscis quadratis ventricosis inde paucis rhomboideis elongatis viridibus cito in minutas rotundatas transeuntibus; comalia latiora magis subulata; perichætialia a basi elongata convoluta elliptico-subulata, cellulis angustis elongatis. Theca obovata, leptoderma, basi strumulosa, ore obliquo, peristomii dentibus rubris dicranis.

Hab. Andes Bogotenses, in sylvis prope Pacho (6500 ped.), *Weir*, n. 214, 280, ad cataractam Tequendama in sylvis (7500 ped.), *Weir*, n. 316.

Caulis 2-uncialis iterum iterumque comose foliosus. Folia luteo-viridia, ætate pallide-fusca, sicca appressa. Theca evacua humida, transparens, saccum sporuliferum ostendens.

20. C. CHIONOPHILUS (*C. Müll. Syn.* i. 398, Dicranum). Folia erecto-patentia, a basi latiore sublanceolata, sensim subulato-angustata, nervo lato basi spongioso folii latitudinis $\frac{2}{4}$ occupante, superne canaliculato concavo, apice parce serrulato, cellulis basilaribus internis oblongis, externis dimidio angustioribus longioribus, superioribus abbreviatis ovalibus, alaribus parvis pallide rufis teneris; perichætialia longiora, a basi convoluta anguste subulata, evidentius serrulata. Theca obovato-oblonga, curvata, inclinata, basi strumosa, operculo rostrato; calyptra ultra thecæ medium descendens.

Hab. Columbia, in Sierra Nevada de Merida (8000 ped.), *Funck et Schlim*, inter n. 996. Andes Bogotenses, *Lindig.*

Caulis unciam altus. Folia 3 lineas longa, viridia, lutescentia, subnitida. Pedunculus $\frac{1}{2}$-uncialis.

Species foliis *C. areodictyo* similis, theca autem inæquali.

21. C. ŒRSTEDIANUS (*C. Müll. Syn.* ii. 596, Dicranum). Cæspites densissime compacti, inferne rufescentes, superne amœne lutescentes splendentes, rigidissimi, laxe cohærentes, vix tomentosi, subhumiles; caulis gracilis, fragilis, flexuosus, ramis appressis dichotome divisus, bicolor, indistincte angulatus, apice tenui subincurvo acuto. Folia caulina densissime appressa, strictissima, anguste canaliculata, lanceolato-subulata, brevia, apice truncato dentibus nonnullis distinctis serrato, nervo latissimo subulam totam superne convolutaceam occupante, cellulis alaribus supra basin fibroso-decurrentem tantum marginalibus teneris laxis pellucidis.—*C. Müll. l. c.*

Hab. America centralis, Costa Rica, in regione alpina, Volcan de Irasú (11,000 ped.), *Œrsted.*

22. C. BRACHYPHYLLUS (*Mitt. in Hook. Kew Journ.* iii. 52, Dicranum). Caulis gracilis. Folia breviuscula, erecto-patentia, lanceolato-subulata, nervo inferne folii latitudinis $\frac{1}{3}$ occupante fere ad apicem usque in lamina distincto canaliculata, apice parce denticulata, cellulis basi paucis oblongis, sensim in parvas rotundas transeuntibus, alaribus conspicuis fuscis basin totam occupantibus subventricosis; perichætialia longiora, longe convoluta, apicibus longiuscule attenuatis serrulatis. Theca ovalis, ore obliquo, operculo rostrato, peristomii dentibus rubris scabris; calyptra ad thecæ medium descendens.

Hab. Andes Quitenses, *Jameson.*

Caulis uncialis. Folia $\frac{1}{2}$-linearia, straminea, fuscescentia.

23. C. SPRUCEI (*Mitt.*). Caulis robustus, laxe cæspitosus, rigidus, innovationibus ramosus, inferne radicellis rubris tomentosus. Folia patentia, sicca immutata, in caulium sterilium apicibus in cuspidem subimbricata, lanceolata, nervo $\frac{2}{4}$ folii latitudinis occupante dorso lamelloso apice in mucronem brevem denticulatum excurrente, marginibus apice

serrulatis, cellulis basilaribus paucis oblongis pellucidis cito in minores oblique ovoideas transeuntibus, alaribus pluribus planiusculis fuscis; perichætia plura aggregata, foliis basi dilatatis convolutis, subito in subulam longam angustam apice diaphanam ibique magis serrulatam productis. Theca in pedunculo brevi, ovali-elliptica, curvata, ore parvo obliquo, operculo conico-subulato, peristomii dentibus rubris dicranis.

Hab. Fluvia Negro et Uaupés, in sylvis humilioribus "Caatingas" dictis, locis Sao Gabriel et Panuré, *Spruce*, n. 59.

Caules 2–4 uncias alti. Folia 2–4-linearia, nitoris destituta, in caulium apicibus luteo-viridia, inferiora nigro-fusca. Pedunculus 4 lineas longus.

Ex habitu foliorum in caulium apicibus subcuspidate imbricatorum *C. lamellinervi* subsimilis.

24. C. LAMELLINERVIS (*C. Müll. Syn.* i. 390, Dicranum). Caulis elongatus, æqualiter foliatus. Folia patentia, sicca dimidio superiore recurvato-squarrosa, inferne latiuscule lanceolata, sensim longe subulata, canaliculata, nervo folii latitudinis tertia parte parum angustiore fere ad apicem usque a lamina distincto, marginibus a medio ad apicem crebre serrulatis, cellulis fere omnibus concoloribus basi elongatis, superioribus ovalibus rotundisque, alaribus copiosis in areolas basin totam occupantes dispositis; perichætialia convoluta, subulata, longe anguste attenuata, serrulata. Theca oblongo-cylindracea, arcuata, basi callosa, ore obliquo, operculo rostrato; calyptra ad thecæ medium descendens.

C. penicillatus, *Wils. in Gardner, Musc. Bras.*

C. giganteus, *Sulliv. in Proceed. Amer. Acad.* Aug. 1861.

Hab. Jamaica, *Wilson*. Cuba, *Wright*, n. 38. Brasilia, Sierra dos Orgaos, *Gardner*, n. 25, *et ex Herb. Sowerby.*

Caulis 1–6-uncialis. Folia 6-linearia, lutea, subnitida, inferne fuscescentia. Pedunculus 4-linearis.

25. C. JAMAICENSIS (*Mitt.*). Caulis gracilis, elongatus. Folia æqualia, laxa, patentia, inferne ovato-lanceolata, sensim superne longe anguste subulata, canaliculata, nervo basi folii latitudinis $\frac{1}{3}$ occupante longe excurrente, superne minutissime crenulato, apice angustissimo hyalino, lamina ultra folii longitudinis $\frac{1}{4}$ obsoleta, cellulis basi ad nervum fuscis suboblongis majoribus, ad margines angustioribus hyalinis, superioribus ovalibus, alaribus pluribus impressis, internis fuscis, externis hyalinis; perichætialia inferne convoluta, nervo longe excurrente apice denticulato. Theca in pedunculo brevi nitido inclinata, ovalis, basi substrumosa, rugulosa, ore obliquo, operculo subulato, peristomii dentibus breviter bicruribus; calyptra ad thecæ medium descendens.

Hab. Jamaica, *Wilson*, n. 813.

Caulis uncialis, cæspitosus. Folia 2-linearia, juniora lutea, seniora fusca, nitida.

26. C. CONCOLOR (*Hook. Musc. Exot.* t. 138, Dicranum). Caulis erectus. Folia æqualia, patentia, recurva, canaliculata, sensim a basi

longe subulato-angustata, a medio ad apicem usque crebre serrulata, nervo tenui inferne folii latitudinis $\frac{4}{6}$ occupante, lamina angustissima fere ad apicem producta, cellulis basi ad nervum paucis oblongis rectangulis, exterioribus dimidio angustioribus, superioribus minutis quadrato-rotundis, alaribus rubris basin totam occupantibus; perichætialia elongata, convoluta, apicibus subulatis longe aristiformi-angustatis argutius serrulatis. Theca in pedunculo brevi, obovata, inæqualis, ore obliquo.

Dicranum Jamesoni, *Hook. Ic. Pl.* t. 179.

Hab. Venezuela; Caracas (5000 ped.), *Funck et Schlim.* n. 469. Andes Bogotenses, in descensu a Paramo ad Choachi (6000 ped.), *Weir*, n. 328; in monte inter Bucamaranga et Pamplona in sylvis (17,000 ped.), *Weir*, n. 346; Turmal in sylvis (7000 ped.), *Weir*, n. 377; in plurimis locis (2200–2800 metr.), *Lindig*; in Alto de Aranda prope Pasto (3000 metr.), *Humboldt et Bonpland, et serius Triana.*

Caulis 1–3-uncialis. Folia albo-viridia, straminea, nitida.

27. C. GRACILICAULIS (*Mitt.*). Caulis gracilis. Folia arcte appressa, radicellis rubris fere obvelata, anguste elliptico-lanceolata, nervo folii latitudinis tertiam partem occupante, a lamina fere ad apicem distincto, marginibus superne incurvis apice parce denticulatis, cellulis inferioribus oblongis pellucidis laxis sensim superne abbreviatis rhomboideis; comalia longiora, patentia; perichætialia interna e basi elongata convoluta subito in subulam angustam apice hyalino-denticulatam producta. Theca inter folia comalia abscondita, ovalis, æqualis, basi scabra; calyptra copiose fimbriata.

Hab. Fl. Negro secus ostia, in rivuli ripis "Igarape da Cachoeira" dicti, *Spruce*, n. 60. Fl. Amazons, Santarem, *Spruce*, n. 60 *b*. Andes Peruvianæ, in monte Campana (4000 ped.), *Spruce*, n. 60 *d*.

Caulis circiter uncialis, gracilis, primo adspectu aphyllus, radiculosus, inferne simplex, apice ramis brevibus in comam congestis.

28. C. EXUSTUS (*Mitt.*). Humilis, gracilis. Folia patentia, a basi infima sensim angustata, longe subulata, nervo basi latitudinis folii $\frac{1}{2}$, superne totum occupante canaliculato, dorso brevissime lamellato serrulato, apice parce denticulato, cellulis oblongis basi laxioribus, alaribus pluribus pallide fuscis; perichætialia longiora, interna a basi elliptica elongata convoluta longe anguste subulata, apice tenui hyalino serrulata. Theca ovali-cylindracea, æqualis, plicata, operculo subulato, peristomii dentibus rubris dicranis.

Hab. Andes Peruvianæ, in monte Pingullu prope Tavalosos ex incendiis (3000 ped.), *Spruce*, n. 57.

Caulis 3-linearis. Folia juniora lutea, inferiora rufescentia.

C. Gardneri similis, sed folia longiora angustioraque.

29. C. GARDNERI (*C. Müll. in Bot. Zeit.* 1857, 379, Dicranum). *C. flexuoso* (Europæ) simillimus, sed folia multo mollius areolata, e cellulis chlorophyllosis nec incrassatis, alaribus paucis laxis tenerrimis vix ventri-

cose impressis, superioribus basis laxis pellucidis teneris brevioribus interioribus viridibus limbato-cingentibus composita, margine superne magis conniventia, dorso et margine læviora; perichætialia in pilum album strictiusculum sæpius flexuosum longum tenuem subdenticulatum producta, distincte falcata, late et longe vaginata, basi laxe, superne incrassata elliptice areolata. Theca in pedunculo brevi flavido, elliptica, solitaria, minuta, substrumosa, operculo conico subulato obliquo; peristomium normale, bifidum.—*C. Müll. l. c.*

Hab. Brasilia, Sierra de Araripé, ad saxa, *Gardner*, n. 20.

30. C. INTROFLEXUS (*Hedw. Sp. Musc.* t. 29, Dicranum). Caulis erectus. Folia appressa erecto-patentiave, anguste lanceolata, superne canaliculata, apice subito in pilum plus minus elongatum denticulatum hyalinum siccum basi geniculatum constricta, nervo lato inferne folii latitudinis $\frac{3}{5}$ occupante, cellulis inferioribus elongatis rectangulis teneris hyalinis, superne in minutas oblique ovales transeuntibus, alaribus in foliis caulinis inconspicuis, in comalibus latioribus conspicuis fuscis; perichætialia elongata, oblonga, convoluta, apicibus subulatis, nervo angusto excurrente denticulato, cellulis teneris fere omnibus elongatis pellucidis. Theca in pedunculo brevi, ovalis, inæqualis, basi rugosa, operculo obliquo rostrato; calyptra ad thecæ medium descendens, basi parce fimbriata.

C. lamellatus, *Mont. in Ann. Sc. Nat.* ser. 2. ix. 52.
C. xanthophyllus, *Mont. l. c.* ser. 3. iv. 111.
Dicranum (Campylopus) truncatum, *C. Müll. Syn.* i. 410.
C. polytrichoideus, *De Not. Syll.* 222.
C. leucotrichus, *Sulliv. Musc. U. States,* 19. no. 73.
C. griseus, *Hornsch. in Mart. Fl. Bras. Musc.* 16.
C. lutescens, *Schimp., C. Müll. Syn.* ii. 602.
Dicranum ericetorum, *Mitt. in Journ. Linn. Soc.* 1859, *Suppl.*
D. leptocephalum, *C. Müll. in Bot. Zeit.* 1851, 551.

Hab. Brasilia, Monte Video, *Sellow, Gibert,* n. 708–712, *Herb. Hooker.* Chili, *Herb. Montagne,* Arique, *Lechler,* n. 642. Bolivia, *Montagne.* Patagonia, *Lobb.* Guatemala, Volcan de Fuego, *Godman et Salvin.*

Caulis ½–2-uncialis. Folia viridia, straminea, aurea, fuscescentia vel interdum nigro-fusca, pilo plus minus elongato, forsan in terris calidioribus longiore.

Very variable in external appearance, in the colour of the leaves, and the length and curvature of their white points. The species appears to abound throughout the southern hemisphere, in Europe extending as far north as the south coast of Britain, and in America to Alabama.

Besides the synonyms quoted above, to which it is probable some others will have to be added, specimens are found in herbaria as *Campylopus canescens,* Schimp., from the Falkland Islands, *Lechler,* n. 90, and *C. capensis,* Schimp., from South Africa, *Breutel.*

31. C. PROLIFERUS (*C. Müll. Syn.* ii. 602, Dicranum). Cæspites elongati, densi, rigidi, lutescentes; caulis masculus elongatus, 3-pollicaris, gracilis, ob folia appressa ubique tenuiter julaceus, prolificationibus masculis turgide capituliformibus, madore rosulatis, remotis tribus (terminali inclusa) præditus, inferne tomento brevissimo albido v. purpurascente, ad flores masculos in medio caulis positos sæpius prolificationibus conformibus elongatis divisus. Folia caulina appressa, breviuscula, a basi longe fibroso-decurrente anguste cymbiformi-lanceolata, apice parum emarginata, pilo brevissimo vel parum longiore dentato hyalino terminata, nervo lato, dorso breviter lamelloso margine erecto vel apice parum involutaceo, ubique integerrimo, cellulis alarum latiuscularum inferne angustissime elongatis, superne incrassatis minutis rotundatis v. ellipticis, alaribus nullis; involucralia latissime oblongo-ovata, brevipila, apice plerumque valde emarginata et erosa, magis convolutacea, cellulis alaribus utrinque ad basin planis multis intense fuscis laxis, perigonialia his multo minora depilia obtusiuscula, nervo angusto obsoleto elamelloso, ubique integerrima, haud emarginata.—*C. Müll. l. c.*

Hab. Venezuela, Tovar (5600 ped.), *Wagner.*

32. C. SAVANNARUM (*C. Müll. Syn.* ii. 596, Dicranum). Cæspites quam maxime latissimi procumbentes, e brunnescente lutescentes bicolores, ob caules intertextos crassos parce distanti-dichotomos hic illic genuflexos apice scopario-comosos rigidos ad apicem usque tomentosos et folia siccitate horride imbricata rigida habitu firmo horride scopario. Folia caulina apicem versus dense imbricata, madore ubique patula subreflexa, multo breviora, vix falcata, lanceolato-subulata, superne et apice hyalino margine et dorso serrulata, nervo latissimo laxe reticulato fere $\frac{3}{4}$ folii occupante et cellulis alaribus robustis laxis permultis fuscis vix ventricosis prædita, e cellulis rhombeo-ellipticis, basi grosse rectangularibus, incrassatis areolata.—*C. Müll. l. c.*

Hab. Surinam, in savannis arenosis planitiei prope Mariepaston ad flum. Saramaccam superiorem inter fruticeta, *Kegel.*

Cum *C. concolori* comparavit cl. auctor.

33. C. CHILENSIS (*De Not.*). Folia densa, patentia, inferne elliptica sensim subulata, apice pilo hyalino denticulato siccitate basi subgeniculato terminata, nervo latissimo folii latitudinis $\frac{5}{7}$ occupante, cellulis basi ad latera hyalinis elongatis limbum brevem angustum formantibus, superioribus oblique oblongis incrassatis obscuris.

Hab. Chili, Valparaiso, *Puccio, De Notaris in Herb. Mitten.*

Caulis uncialis. Folia sub 3-linearia, juniora fulva, seniora nigra, subnitida.

Sect. 2. *Homalocarpus.*

34. C. AREODICTYON (*C. Müll. Syn.* i. 394, Dicranum). Compacte cæspitosus. Folia æqualia, densa, erecto-patentia, canaliculata, nervo basi folii latitudinis $\frac{3}{5}$ occupante, lamina ultra medium folii obsoleta, apicibus

subdenticulatis, cellulis basi ad nervum oblongis laxioribus rectangulis, externis angustioribus elongatis, superioribus ovalibus, alaribus paucis pallide fuscis fragilibus; perichætialia obovato-oblonga, convoluta, nervo in subulam elongatam excurrente. Theca in pedunculo longiusculo, ovalis, æqualis, operculo subulato, peristomii dentibus ad medium bicruribus basi coalitis; calyptra basi inflexa.

Hab. Guatemala, Volcan de Agua, *Godman et Salvin.* Venezuela, prov. Merida, Sierra Nevada (8900 ped.), in arboribus putridis, *Funck et Schlim,* n. 1082. Andes Bogotenses, Paramo inter Bogota et Choachi (9500 ped.), *Weir,* n. 180. Andes Quitenses, Quito, *Jameson,* in monte Tunguragua et Pichincha (9500 ped.), *Spruce,* n. 52. Bolivia, *Bridges.*

Caulis 1–3-uncialis. Folia $2\frac{1}{2}$-linearia, pallide straminea, nitida. Pedunculus $\frac{1}{2}$-uncialis.

35. C. SUBCONCOLOR (*Hampe in Linnæa,* xxxii. 138, Dicranum), Pulvinatim cæspitosus, superne pallescente fusco-viridis, $1\frac{1}{2}$–2-uncialis, subfastigiatus; caulis adscendens, erectus, inferne attenuatus, superne incrassatus, diviso-ramosus. Folia canaliculata, summo apice parce dentata, nervo latissimo fusco-lutescente basi tertiam partem folii, subulam vero totam occupante, cellulis alaribus incrassatis, interstitiis crassis nodulosis cinctis pellucidis, marginalibus anguste linearibus versus apicem abbreviatis lutescentibus. Setæ solitariæ vel aggregatæ, flexuoso-erectæ, subbreves. Theca obovata, cylindrica, suberecta, operculo subulato recto thecam dimidiam æquante vel paulo superante, calyptra cucullata dimidiam thecam involucrante, dentibus peristomii inflexis sanguineis fere ad medium divisis, laciniis subulatis pallidioribus.

Hab. Andes Bogotenses, Bogota, La Penna, in sylvis ad latera "Barrancas" (2900 met.), *Lindig.*

Habitus *C. concoloris,* tamen ob calyptram nudam *C. pauperi* affinis.

36. C. SCABRELLUS (*Mitt.*). Caulis gracilis. Folia erecto-patentia, nervo concavo inferne folii latitudinis dimidium æquante, apice serrulato, dorso cellulis minute prominulis subcrasso, lamina ultra medium folii longitudinis obsoleta, cellulis basi paucis parallelogrammicis ad angulos paucis diaphanis, superne sensim minoribus minutis rotundatis; comalia longiora; perichætialia a basi elliptica convoluta sensim subulata, elongata, apice serrulata. Theca ovalis, operculo subulato.

Hab. Brasilia, *Lobb. Herb. Hooker.*

Caulis uncialis. Folia pallide viridia, caulina 2-linearia. Pedunculus 4-linearis.

C. acervato simillimus.

37. C. OCCULTUS (*Mitt.*). Dense cæspitosus, humilis, gracilis. Folia erecto-patentia, caulina breviora, marginibus incurvis canaliculata, integerrima, nervo lato tenui inferne folii latitudinis tertiam partem occupante ad apicem usque a folii pagina distincto, cellulis basi paucis parallelogrammicis oblongis ad angulos hyalinis, superioribus quadratis cito in minores rotun-

datas virides transeuntibus; comalia longiora, a basi breviore subulata, magis patentia; perichætialia e basi subelliptica convoluta nervo in subulam elongatam apice hyalinam serrulatam excurrente. Theca in pedunculo pallido, ovalis; calyptra basi crenulata.

Hab. Brasilia australis; Fazienda do Cashambu (2200 ped.), in sylvis ad ligna putrida, *Weir,* n. 66.

Caulis $\frac{1}{2}$-uncialis. Folia luteo-viridia caulina $1\frac{1}{2}$-linearia, comalia 2-linearia. Pedunculus 4-linearis, madefactus thecam inter folia comantia delitescens, siccus erectus.

38. C. ACERVATUS (*Mitt.*). Caulis elongatus, gracilis. Folia erecto-patentia, nervo basi folii latitudinis $\frac{1}{4}$ occupante, ultra medium e lamina excurrente concavo serrulato dorso lævi, cellulis basi pallide fuscis laxioribus (alaribus) folii latitudinem totam occupantibus subquadratis rectangulis, superioribus sensim minoribus pallide viridibus pellucidis, supremis marginalibusque rotundis minutis; comalia longiora, magis subulata; perichætialia e basi elongata subelliptica convoluta nervo longe excurrente apice serrulato diaphano. Theca in pedunculo pallido, ovalis.

Hab. America australis, *Lobb.* n. 122, *Herb. Hooker.*

Caulis 1–$1\frac{1}{2}$-uncialis, gracilis. Folia 2-linearia, sicca appressa, apicalia comosa straminea. Pedunculus 4-linearis, sicca erecta.

39. C. CAVIFOLIUS (*Mitt.*). Dense cæspitosus; caulis dense foliosus, crassus. Folia patentia, siccitate appressa, nervo folii latitudinis inferne $\frac{4}{6}$, superne folium totum occupante, marginibus incurvis superne fere tubulosa, apice tantum subdenticulata, interdum cucullata, cellulis inferioribus angustissimis, alaribus pluribus fugacissimis, superioribus minutis rotundatis; perichætialia inferne convoluta, apice denticulata. Theca ovalis, leptoderma, ore parvo, basi scabra, operculo obliquo.

Hab. Andes Quitenses, in montibus Chimborazo, Cordovasto, Titaicun (11,000 ped), *Spruce,* n. 50, *Jameson.*

Caulis $\frac{1}{2}$–$1\frac{1}{2}$-uncialis, inferne interdum radicellis rufis præditus. Folia straminea, subnitida, inferiora pallide fusca. Pedunculus 5-linearis.

Habitu staturaque *C. concolori* similis, foliis tamen strictioribus, superne magis tubulosis, et theca æquali diversus. A *C. areodictyo* theca basi aspera et calyptra fimbriata recedens.

40. C. ARCTOCARPUS (*Hornsch. in Mart. Fl. Bras. Musc.* 12, Dicranum). Caulis æqualiter foliatus. Folia densa, erecto-patentia, nervo inferne folii latitudinis tertiam partem occupante, a lamina folii fere ad apicem usque distincto, marginibus superne incurvis apice parce serrulatis, cellulis concoloribus basi oblongis, superioribus rotundis, alaribus pluribus quadratis fuscis per basin protractis; perichætialia inferne convoluta, subulata. Theca in pedunculo gracili luteo subrecto, oblonga, inæqualis, basi rugulosa, operculo subulato; calyptra ultra medium thecæ descendens.

Thysanomitrium scabrisetum *et* T. stenocarpum, *Hampe, Ic. Musc.* t. 23.

Dicranum (Campylopus) stenopus, *C. Müll. Syn.* i. 404.

Hab. Brasilia, Monte Video, *Sellow*; Sierra dos Orgaos, *Gardner*, n. 22. Venezuela, Caracas (4000 ped.), *Funck et Schlim*, n. 366.

Caulis 1–1½-uncialis. Folia luteo-viridia, sicca appressa, 2-linearia. Pedunculus 4-linearis, haud curvatus.

Gardener's specimens agree with Hornschuch's in Herb. Hooker.

41. C. FIMBRIATUS (*Mitt.*). Cæspitosus; caulis gracilis. Folia erecto-patentia subsecundave, canaliculata, nervo lato basi folii latitudinis tertiam partem, subulam fere totam occupante, marginibus superne incurvis, apicibus angustis denticulatis, cellulis alaribus vix conspicuis basi oblongis laxis, superioribus quadratis in parte subulata minutis ovalibus; perichætiali longiora, inferne convoluta, apicibus flexuosis angustis magis serrulatis. Theca in pedunculo cygneo curvato, ovalis, æqualis, operculo subulato; calyptra ad thecæ medium descendens, basi copiose fimbriata.

Hab. Andes Quitenses, Quito ad arbores, Guayrapata (10,000 ped.), *Spruce*, n. 51, in monte Picillum, *Jameson.*

Caulis uncialis altiorque. Folia viridia, ætate straminea.

42. C. CHRISMARI (*C. Müll. in Bot. Zeit.* 1855, 761, Dicranum). Cæspites elongati, viridescentes, densiusculi; caulis longus, gracilis, flexuosus, inferne nudus, superne paucifolius, apice falcato-foliosus, parce dichotomus, vix vel parum tomentosus. Folia caulina laxe conferta, subsecunda, elongate lanceolato-subulata, ubique canaliculata, semiconvoluta, nervo latissimo applanato laminam fere totam occupante percursa, summo apice denticulata; cellulæ alares planæ, paucæ, laxissimæ, tenerrimæ, fuscæ vel pellucidæ fugaces, basilares elongatæ laxe pellucidæ, marginales angustissimæ limbum angustum sistentes, superiores ellipticæ incrassatæ; perichætialia a basi longa laxissime reticulata, majora, ad subulam latiora, apice margine et dorso serrulata. Theca in pedunculo cygneo lævi brevi, ovalis, parva, æqualis, sicca virescens striatula, operculo conico subulato subobliquo rubro nitente et calyptra glabra breviter fimbriata obtecta; peristomium angustum, purpureum.

Hab. Mexico, prov. Mechoacan, *Chrismar.*

Ex auctore *Dicranodonti denudato* (Europæ et Amer. sept.) habitu affinis et similis.

43. C. WIDGRENII (*C. Müll. in Bot. Zeit.* 1856, 418, Dicranum). Monomorphus, intertextus, radiculosus, haud tomentosus, subelatus, e sordide lutescente brunneus, subgracilis, ramis gracilibus, innovans flaccido-flexuosus, coma brevi vix secunda terminatus. Folia caulina sicca laxe conferta, madefacta patentissima, comantia solum recta, angusta, firmiuscula et rigidiuscula, breviuscula, substricta, canaliculato-concava, margine erecto apice denticulato, nervo lato dorso brevissime lamelloso et apice scabro, a medio usque ad apicem folium totum occupante, cellulis ellipticis incrassatis, alaribus multis amplis laxis brunneo-fuscis ventricose expressis; perichætialia in cylindrum congesta, e basi lata vaginante radiculosa, elon-

gate laxe reticulata, in subulam longam setaceam denticulatam producta. Theca solitaria, in pedunculo brevi lævi parum cygneo curvato erecta, siccitate sæpius inclinata, æqualis, oblonga, parva, operculo conico obliquo, calyptra lata brevi sordida, basi hic illic ciliis brevibus inæqualibus strictis parum fimbriata, peristomio angusto longo.

Hab. Brasilia, *Widgren.*

Inter congeneres Brasilienses *C. stenocarpo* proximus sed pedunculo lævi foliisque heteromallis jam distans. A *C. arctocarpo* statura longiore robustiore, cellulis folii incrassato-ellipticis atque theca oblonga æquali nunquam cernua longe refugit. *C. trachyblepharon* statura stricta rigidissima foliis alte lamellosis nervo tenui, summum apicem solum occupante, margine serrato, calyptra longe fimbriata et aliis notis toto cœlo differt. Inter *C. trachyblepharon*, *C. stenocarpum*, et *C. arctocarpum* medium tenet.—*C. Mull. l. c.*

44. C. INCRASSATUS (*Kunze*, *C. Müll. Syn.* i. 408, Dicranum). Caulis elongatus. Folia patenti-recurva secundave, marginibus incurvis canaliculata, apice pilo brevi hyalino parce denticulato terminata, nervo lato inferne folii latitudinis tertiam partem occupante supra folii longitudinis medium a lamina excurrente, cellulis basilaribus ad nervum majoribus laxis oblongis rectangulis, exterioribus angustissimis elongatis, superioribus sensim in minutas rotundatas transeuntibus, alaribus conspicuis ventricosis hyalinis; perichætialia arcte convoluta, apicibus subulatis brevibus angustis. Theca in pedunculo elongato medio flexo, ovalis, peristomio parvo.

Hab. Chili ad Talcahuano, *Pœppig*, 1828.

Caulis 1–2-uncialis, gracilis, inter folia pallide radiculosus. Folia sub-3-linearia, luteo-fulva, fuscescentia. Pedunculus 6–7-linearis.

45. C. ERECTUS (*C. Müll. Syn.* i. 408, Dicranum). Basi densissime cæspitosus; caulis strictissimus, inferne foliis brevioribus dense appressis madefactis erecto-patentibus appressis filiformis, apice glomerato-foliosus simplex v. prolifer valde rigidus. Folia caulina inferiora anguste lanceolata, involuto-concava, integerrima, nervo lato longe cuspidato s. piligero apice fuscescente s. hyalino denticulato, dorso cellulis valde prominulis; suprema lato-oblonga, apice breviter acuminata, acuta, margine crenulata vel denticulata, nervo latissimo ante apicem evanescente. Theca elliptico-oblonga, stricta, annulata, operculo conico recto.—*C. Müll. l. c.*

Hab. Columbia, prope Galipan, *Moritz*, n. 145.

A *C. introflexo* proximo longe distat.—*C. Müll. l. c.*

Sect. 3. *Thysanomitrium*, Schwægr. ii. 61.

46. C. SURINAMENSIS (*C. Müll. Syn.* i. 386, Dicranum). Inferne dense cæspitosus, caulibus adscendentibus subhumilibus solitariis substrictis, apice stellato-comosis infima basi laxe foliosis. Folia caulina infra perigonium disposita, lanceolata, brevia, latiuscula, valde plicata et igitur varie

concava, apicem versus eroso-denticulata, nervo ante apicem evanido pro latitudine folii tenui, partim medio brevissime lamelloso, partim superne dorso scabro; folia inferiora lanceolata, valde canaliculata, angusta, igitur latinervia, haud plicata, e reliquis superioribus similia; omnia e cellulis parvis inanibus rhomboideis pellucidis areolata, alaribus teneris hyalinis prædita.—*C. Müll. l. c.*

Hab. Surinam, prope Paramaraibo inter fruticeta, terram arenariam humidam cæspitose habitans, *Kegel.*

Planta tenella, pulchella.—*C. Müll. l. c.*

47. C. ACUMINATUS (*Mitt.*) Caulis elongatus. Folia erecto-patentia, laxe subimbricata, apice acuminata, marginibus involutis integerrimis, nervo concolori ægre distinguendo inferne folii latitudinis $\frac{1}{3}$ occupante superne in acumen contracto, cellulis basi elongatis hyalinis teneris fragilibus, superioribus ellipticis, apicalibus rotundis.

Hab. Fuegia, Hermit Island, in summo monte Forster, *J. D. Hooker.*

Caulis 1–2-uncialis. Folia ubique æquilonga, vix 2-linearia.

48. C. CUSPIDATUS (*Hornsch. in Mart. Fl. Bras. Musc.* 13, Dicranum). Caulis elongatus, apicibus foliis imbricatis cuspidatis. Folia dense inserta, marginibus incurvis integerrimis, apice acuminata, nervo inferne folii latitudinis $\frac{1}{5}$ occupante, cellulis omnibus concoloribus, inferioribus elongatis, superioribus ellipticis, alaribus pluribus fuscis obscuris folii basin totam occupantibus.

Hab. Brasilia, Sincora et Rio das Contas, *Martius ex Hornschuch.*

Caulis 2-uncialis. Folia 2-linearia, nitida, fulvo-fusca.

49. C. RICHARDI (*Schwægr.* t. 188, Thysanomitrium). Caulis plus minus elongatus. Folia densa, apicibus angustis, pilo hyalino minute denticulato terminata, marginibus incurvis, nervo fere ad apicem usque a pagina distincto inferne folii latitudinis $\frac{1}{3}$ occupante, cellulis alaribus pluribus quadratis fuscis inde elongatis luteis superne oblongis obliquis; perichætia aggregata, foliis inferne late ellipticis convolutis nervo excurrente. Theca in pedunculo brevi, elliptica, æqualis, basi scabra, operculo subulato recto, peristomii dentium cruribus elongatis pallidis filiformibus angustis minutissime scabris; calyptra ad thecæ medium descendens, basi lobata, inflexa, parce fimbriata.

Thysanomitrium Mülleri, *Hampe in Ann. Sc. Nat.* ser. 5. iii. 363.

C. nigrescens, *Duby, Choix Crypt. Exot.* t. 1. f. 1.

Dicranum lævigatum?, D. lamellicosta?, *et* D. Liebmanni?, *C. Müll. Syn.* ii. 601.

Hab. Ins. Guadelupe, *Parker, Funck et Schlim.* Andes Quitenses, *Jameson,* in monte Tunguragua (9000 ped.), *Spruce,* n. 53 *b.* Andes Peruvianæ, in monte Picoté prope Moyobamba (5000 ped.), *Spruce.* Andes Bogotenses, Paramo inter Bogota et Choachi, *Weir,* n. 176, Guadelupe et Cipacon (3000–3200 metr.), *Lindig.*

Caulis 1–3-uncialis. Folia luteo-viridia, subnitida, seniora nigra. Pedunculus 2-linearis. Calyptra interdum perfecte mitriformis.

Duby's description and figure of his *C. nigrescens* offer no distinctive character by which it can be separated from *C. Richardi*; and the name "*nigrescens*" has before been applied to an East-Indian species.

50. C. LEPTODUS (*Mont. in Ann. Sc. Nat.* ser. 3. iv. 111, *et in C. Gay, Hist. Chili Crypt.* t. 3. f. 2). Caulis elongatus. Folia marginibus incurvis canaliculata, nervo inferne folii latitudinis $\frac{2}{4}$, subulam superiorem totam occupante, integerrima, cellulis inferioribus elongatis angustis, alaribus conformibus pallidioribus inconspicuis, superioribus oblongis; perichætialia a basi longe convoluta elliptica, nervo longe excurrente, apice hyalino minute denticulato. Theca in pedunculo brevi superne scabro, elliptica, æqualis, basi aspera, operculo brevi subulato recto, peristomii dentibus fere ad basin in crura angusta filiformia elongata minute scabra rubra divisis; calyptra infra thecæ medium descendens.

Hab. Andes Quitenses, in monte Cayambe (12,000 ped.), *Jameson, Spruce*, n. 53. Patagonia, *Lobb.* Chili, Valparaiso (sub nomine *C. Montagnei*, De Not.), *Herb. De Notaris*, Sachapata, *Lechler*, n. 2593.

Found also in Lord Auckland's Islands and New Zealand.

51. C. LÆVIS (*Tayl. in Hook. Lond. Journ.* v. 47). Caulis breviusculus. Folia densa, marginibus superne incurvis concava, nervo inferne folii latitudinis $\frac{1}{6}$ occupante, superne in subula a lamina indistincto, in comalibus apice hyalino serrulato, cellulis basi angustissimis elongatis superioribus ad nervum minutis oblongis obliquis, alaribus nullis; perichætialia a basi elongata, elliptica, inferne hyalino-marginata, convoluta, nervis excurrentibus erectis. Theca in pedunculo crassiusculo, elliptica, æqualis, ore parvo, operculo acuminato recto, peristomii dentibus fere ad basin usque in crura duo filiformia minutissime scabra fissis; calyptra infra thecæ medium descendens, basi copiose fimbriata.

Hab. Andes Quitenses, Chimborazo, *Jameson*, in monte Pichincha (10,500 ped.), *Spruce*, n. 48.

Caulis $\frac{1}{2}$–$1\frac{1}{2}$-uncialis. Folia luteo-viridia vix nitida, seniora fusca. Theca flexura pedunculi 4-linearis vel erecta vel horizontalis.

Pilopogoni gracili quoad caulium gracilitatem similis.

23. LEUCOLOMA, Brid. ii. 218.

Musci cæspitosi, graciles. Folia angusta, setacea, cellulis diversiformibus areolata, marginalibus elongatis angustis hyalinis, interioribus abbreviatis obscuris papillosisve, alaribus conspicuis; perichætialia parva. Thecæ parvæ, in pedunculo recto brevi, operculo subulato, peristomii dentibus latiusculis. *Habitatio* ad ligna cariosa.

L. MOLLISSIMUM (*Mitt.*) Caulis gracilis. Folia patentia, inferne lanceolata, sensim longe angusteque subulata, apicibus angustissimis, nervo angusto pellucido percurrente superne carinata, marginibus apice denticulatis, cellulis in medio folio parvis ovalibus rotundisque obscuris spatium folii latitudinis $\frac{3}{4}$ occupantibus, marginalibus hyalinis elongatis angustis limbum latum ad folii longitudinis medium productum formantibus, alaribus pallidis; perichætialia a basi brevi late ovata subito longe subulata. Theca in pedunculo brevi rubro, ovalis, ore magno, operculo conico rostrato, peristomii dentibus cruribus rubris in conum dispositis; calyptra ad thecæ medium descendens, basi lobata, apice scabriuscula.

Hab. Andes Quitenses, in sylva Canelos (3000 ped.), *Spruce,* n. 68. Venezuela absque fructu, *Funck et Schlim.*

Caulis 1–2-uncialis. Folia 3-linearia, pallida, albo-viridia, inferiora fusca, a caule facillime diffracta. Pedunculus linearis.

L. molli archipelagi Indici simillimum.

24. PŒCILOPHYLLUM, gen. nov.

Musci cæspitosi, caulibus plus minus elongatis, parce divisis. Folia setaceo-acuminata, cellulis marginalibus elongatis angustis hyalinis in medio folio autem abbreviatis chlorophyllosis, interdum papillosis, alaribus conspicuis; perichætialia basi convoluta. Thecæ in pedunculo elongato, oblongo-cylindracea, operculo subulato, peristomii dentibus latiusculis. *Habitatio* ad ligna putrida.

Folia angustissime lanceolata, setacea	1. *P. Crugerianum.*
Folia a basi latissima sensim subulata, acuta ..	2. *P. serrulatum.*
Folia inferne subelliptica sensim angustata	3. *P. macrodon.*
Folia anguste elliptica sensim longe tenui-subulata.	4. *P. albulum.*
Folia subelliptica sensim longe subulato-attenuata.	5. *P. vincentinum.*
Folia ovali-lanceolata, subulata, apicibus obtusis planiusculis.	6. *P. tortellum.*
Folia a basi lata lanceolata sensim angustata, subulata.	7. *P. procumbens.*
Folia inferne sublanceolata sensim subulato-angustata.	8. *P. triforme.*
Folia angustissime lanceolato-subulata........	9. *P. subimmarginatum.*

1. P. CRUGERIANUM (*C. Müll. Syn.* ii. 588, Dicranum). Dioicum; cæspites humiles, pallescentes, mollissimi; caulis fragilis, nigricans, adscendens parce ramosus, tener, apice attenuato quidem, sed tamen brevissimo et laxissime folioso contorto, nunquam caudato, vix subsecundo. Folia caulina laxe imbricata, valde cirrhata, madore patula, apice subsecunda, basi distincte prominenti-auriculata, e cellulis alaribus in ventrem distinctissimum congestis, paucis, magnis, intense et amœne aureo-fuscis, dein ad marginem albescentibus reticulata, limbo albescente angustissimo circum-

ducta, margine connivente hic illic undulata, dorso ubique tenerrime papillosa, nervo canaliculato angustissimo in subulam elongatam apice serrulatam excurrente, cellulis in medio folio nunquam opacis, sed pallentibus, ubique fere minute rotundatis, basi magis rectangularibus; perichætialia e basi longiuscule convoluta latiuscula, inferne laxe pellucide vel fusco reticulata, subito fere longe setacea. Theca in pedunculo stricto tenero rubro firmo erecta, angustissime cylindrica, æqualis, dentibus intense purpureis angustis lanceolato-subulatis, in crura duo ad medium fissis, inferne trabeculatis.—*C. Müll. l. c.*

Hab. Trinidad, in monte Tochuche, *Crüger.*

A *P. serrulato* proximo characteribus laudatis pulchre refugit.—*C. Müll. l. c.*

2. P. SERRULATUM (*Brid. Bry. Univ.* ii. 752, Leucoloma). Laxe cæspitosum, mollissimum, adscendens, humile, parce ramosum, pallidum, densifolium, apice longiuscule attenuato suberecto capillari. Folia caulina erecto-patentia, madefacta valde patula, elongata, canaliculato-concava, excurrentinervia, apice minute serrulata, latissime marginata, cellulis alaribus planis teneris.

Dicranum Bridelianum, *C. Müll. Syn.* i. 351.

Hab. Hispaniola, *Desvaux.* Brasilia.

3. P. MACRODON (*Hook. f. in Hook. Ic. Pl.* i. 349, Dicranum). Humilis. Folia densa, patentia, secunda, nervo percursa, marginibus incurvis apice minute erosis, cellulis in medio folio basi elongatis superne abbreviatis rotundatis minutissime papillosis obscuris, ad margines seriebus circiter 18 elongatis angustissimis limbum hyalinum fere ad apicem usque productum formantibus, alaribus oblongis fuscis; perichætialia a basi late ovata convoluta subito subulata. Theca in pedunculo elongato rubro elliptico-cylindracea, operculo subulato, peristomii dentibus dicranis.

Hab. Andes Quitenses, *Jameson*?

4. P. ALBULUM (*Sulliv. in Proceed. Amer. Acad.* 1861, 278). Humilis. Folia patentia, subsecunda, nervo excurrente apice denticulato, marginibus incurvis, cellulis in medio folio basi oblongis, superioribus brevibus rotundis, exterioribus in seriebus circiter 10–12 angustissimis elongatis limbum hyalinum ultra folii longitudinis medium productum formantibus, alaribus pluribus fuscis; perichætialia inferne suborbiculata, convoluta, subito longe subulata, contracta, patentia. Theca in pedunculo rubro elongato, anguste elliptica, operculo subulato recto.

Hab. Ins. Cuba, in truncis putridis, *Wright,* n. 35; Jamaica, *Wilson*; St. Vincent, *Guilding in Herb. Hooker.*

Caulis $\frac{1}{4}$–$1\frac{1}{2}$-uncialis. Folia pallide glauco-viridia, ætate fusca, sicca parum mutata, subcurvata. Pedunculus 5-linearis.

5. P. VINCENTINUM (*Mitt.*). Caulis elongatus, decumbens. Folia

secunda, patentia, nervo angusto apice a lamina indistincto serrulato, marginibus incurvis, cellulis in medio folio oblongis ovalibusque tertiam partem folii latitudinis occupantibus, ad margines utrinque seriebus circiter 18 angustis limbum hyalinum vix supra medium folii longitudinis productum formantibus, alaribus copiosis oblongis parallelogrammicis fuscis.

Hab. Ins. St. Vincent, *Guilding in Herb. Hooker*; Trinidad, *Crüger*.

Caulis 2–3-uncialis. Folia pallide fusca.

6. P. TORTELLUM (*Mitt.*). Caulis procumbens. Folia patentia, terminalia secunda, sicca cirrhoso-contorta, nervo luteo pellucido apice obscuro percursa, marginibus apice tantum minute crenulatis, cellulis interioribus basi oblongis pellucidis cito in minutas rotundas papillosas obscuras transeuntibus, marginalibus limbum angustissimum in basis parte latiore tantum obvium formantibus, alaribus pluribus fuscis.

Hab. Ins. Trinidad, *Crüger*. Fl. Amazon, ad fl. Aripecuru (Guayanæ Brasilianæ), *Spruce*, n. 67; fl. Orinoco ad cataractas Maypures, *Spruce*, n. 676.

Caulis ½-uncialis. Folia 1½-linearia, pallide luteo-viridia.

7. P. PROCUMBENS (*Mitt.*). Caulis procumbens. Folia patentia, curvata, secunda, sicca tortuosa, nervo pellucido apicem versus obscuro dorso minutissime papilloso percursa, marginibus superne incurvis apice crenulatis, cellulis inferne in medio folio parvis rotundis spatium folii latitudinis $\frac{2}{4}$ occupantibus, superne obscuris, exterioribus elongatis hyalinis limbum latum superne sensim angustatum supra folii medium evanidum formantibus, alaribus pluribus fuscis; perichætialia basi vaginantia, longe subulata. Theca in pedunculo rubro erecta, cylindracea, operculo subulato, peristomii dentibus rubris dicranis; calyptra pallida, infra thecæ medium descendens.

Hab. Andes Peruvianæ, in monte Campana et Pingullu ad truncos vetustos (3000–4000 ped.), *Spruce*, n. 69. Andes Bogotenses, in sylvis prope Pacho (6000 ped.), ad arborum truncos, *Weir*, n. 263. Venezuela, *Funck et Schlim.*

Caulis subuncialis. Folia vix 3-linearia, viridia.

8. P. TRIFORME (*Mitt.*). Caulis breviusculus. Folia patentia, subsecunda, marginibus superne incurvis, nervo angusto apice excurrente subserrulato, cellulis in medio folio parvis oblongis obscuris brevissime papillosis sublævibus tertiam partem folii latitudinis occupantibus, exterioribus in seriebus utrinque circiter 20 elongatis angustis pallide fuscis, seriebus duabus externis hyalinis limbum angustissimum ultra folii longitudinis medium productum formantibus.

Hab. Brasilia; Rio de Janeiro, *Heward.*

Caulis uncialis, decumbens, curvatus. Folia superiora pallide luteo-viridia falcato-secunda, inferiora fusca.

9. P. SUBIMMARGINATUM (*C. Müll. Syn.* ii. 589, Dicranum). *P. Crügeriano* simillimum, sed pusillum, apice breviter distincte attenuato sub-

incurvo præditum. Folia caulina breviora, minus setacea, summo apice serrulata, inferne tenerrime ad subulam magis convolutaceam grossius papillosa, nunquam margine undulata, vix limbo albescente circumducta, e cellulis basi longiuscule rectangularibus, superne parum magis rotundatis, alaribus planis paucis laxis fuscis reticulata.

Hab. America centralis; Costa Rica (5000–8000 ped.), *Œrsted.—C. Müll. l. c.*

Tribus II. GRIMMIEÆ.

25. Grimmia, Ehrh. Beitr. i. 176.

Musci cæspitosi, sæpe compacte pulvinati. Folia cano-pilifera. Thecæ ovales oblongæ, æquales. *Habitatio* in rupibus, rarissime in arborum truncis.

Sect. 1. Schistidium. *Theca lævis, brevissime pedunculata, foliis perichætialibus ampliatis immersa, ore magno demum hiante, operculo cupulato brevirostrato columellæ adhærente deciduo, peristomii dentibus latis. Calyptra brevis, operculum haud tegens.*

Folia limbo incrassato marginata.
  Folia lanceolata, obtusiuscule acuta .... 1. G. *patagonica.*
  Folia late ovata, recurvo-acuminata .... 2. G. *pachyloma.*
Folia limbo marginali carentia.
  Folia ovata .... 3. G. *saxatilis.*
  Folia elongate lanceolata .... 4. G. *andina.*
  Folia angusta, elongate lanceolata .... 5. G. *angustifolia.*
  Folia ovalia oblongave cymbiformi-concava...... 6. G. *streptophylla.*
  Folia a basi oblonga subito lanceolata .... 7. G. *Schiedeana.*
  Folia anguste lanceolata, acuta................ 8. G. *amblyophylla.*
  Folia lanceolata, obtusiuscula, vel in pilum hyalinum producta. 9. G. *apocarpa.*
  Folia superiora lineari-lanceolata .... 10. G. *fuliginosa.*
  Folia a basi erecta longiuscula late oblongo-dilatata oblique lanceolata. 11. G. *laxa.*

Sect. 2. Eugrimmia. *Theca in pedunculo brevi curvato, exserta, plicata. Peristomii dentes lati. Calyptra basi plurifida vel imo latere profundius fissa.*

Flores dioici.
  Folia a basi anguste lanceolata acuminata ......12. G. *imberbis.*
  Folia anguste lanceolata.......................13. G. *consobrina.*
  Folia oblongo-ovalia ....14. G. *Giberti.*
Flores monoici.
  Folia anguste lanceolato-linearia ....15. G. *fusco-lutea.*
  Folia late ovato-lanceolata....................16. G. *humilis.*

Sect. 3. GUEMBELIA. *Caulis dichotomus, fastigiatim ramosus. Theca lævis, in pedunculo recto. Peristomii dentes* 16, *subintegri, pertusi, vel bifidi. Calyptra plurifida.*

Folia elongato-lanceolata .... 17. *G. ovata.*

Folia ovato-lanceolata .... 18. *G. longirostris.*

Folia a basi ovata subito angustato-lanceolata .... 19. *G. reflexidens.*

Sect. 4. DRYPTODON. *Caulis dichotomus, fastigiatim ramosus. Theca in pedunculo recto, lævis. Peristomii dentes* 16, *plus minus profunde fissi. Calyptra mitriformis.*

Folia lanceolata, longiuscule acuminata, acuta, apiculo parvo hyalino terminata .... 20. *G. rupestris.*

Folia lanceolata, superne elongata, apice cucullata .. 21. *G. cucullatifolia.*

Folia ovato-lanceolata, acutata v. acumine hyalino brevissimo mucronata. 22. *G. didyma.*

Folia ovato-lanceolata, acutiuscula .... 23. *G. convoluta.*

Folia lanceolata, longiuscule acuminata, acuta vel pilo brevi hyalino terminata .... 24. *G. nigrita.*

Species *G. microcarpæ* affinis .... 25. *G. cylindrica.*

Sect. 5. RHACOMITRIUM. *Caulis ramulis pluribus lateralibus sæpe sterilibus brevibus ramosus. Theca lævis, in pedunculo recto. Peristomii dentes* 16, *elongati, profunde interdum usque ad basin in lacinias filiformes divisi. Calyptra mitræformis.*

Folia in pilum angustissimum vix flexuosum subintegerrimum attenuata, lævissima................................ 26. *G. contermina.*

Folia anguste elongato-lanceolata, subulato-attenuata, apice longo hyalino denticulis divaricatis serrato .... 27. *G. lanuginosa.*

Folia lanceolata, longiuscule acuminata, pilo hyalino elongato flexuoso crispatove terminata .... 28. *G. crispipila.*

Folia ovato-lanceolata, subulato-angustata, apice breviter hyalino subserrulato .... 29. *G. lævigata.*

Sect. 1. *Schistidium.*

Platystoma, *C. Müll. Syn.* i. 776; Scouleria, *Hook.*

1. G. PATAGONICA (*Mitt.*). Caulis elongatus, ramosus. Folia patenti-recurva, basi subauriculata, planiuscula, nervo obscuro inferne dorso radicellis vestito rigido post laminæ folii destructionem persistente, marginibus superne crenatis irregulariter subserrulatis, vittis inferne intramarginalibus e cellulis angustis elongatis compositis, ad folii basin pellucidis superne obscuris, versus apicem ad margines attingentibus, sub summo apice desinentibus, cellulis basilaribus incrassatis quadratis oblongisque parvis, superioribus rotundatis obscuriusculis; perichætialia conformia. Theca magna, globoso-oblata, nitida, aterrima, operculo convexo mamillato deinde plano subconico.

Hab. Patagonia, Chitan, in rupibus aquæ dulcis irroratis, *Lobb.*

Species magna, *G. Scouleri* Americæ septentrionalis similis.

2. G. PACHYLOMA (*Mont. in Ann. Sc. Nat.* ser. 2. ix. 51). Elongata, fluitans, elongato-ramosa, sordide viridis, ramis apice parum curvatis. Folia falcato-secunda, densiuscule imbricata, nervo crasso viridi excurrente cuspidata, ubique carnosa, limbo maxime incrassato viridi marginata, viridia, cellulis maxime conflatis difficile discernibilibus minutis quadratis areolata.—*C. Müll. Syn.* ii. 653.

Hab. Chili, prope Valparaiso, in aquis calidis vivis, *D'Orbigny.*

This species appears to belong to this group; but the description applies nearly as well to some hypnoid mosses hereinafter referred to the genus *Sciaromium.*

3. G. SAXATILIS (*Mitt.*). Pulvinate cæspitosa. Folia patentia, appressa, subimbricata, pilo hyalino subdenticulato terminata, nervo percursa, marginibus uno latere anguste recurvis, cellulis basi pluribus parvis quadratis, ad nervum paucis oblongis viridioribus, superioribus minoribus rotundatis obscuris, limitibus pellucidis; perichætialia majora, oblonga, acuminata, concava, subplicata, tenuinervata, pilo hyalino terminata, cellulis oblongis teneris ad apicem paucis rotundatis obscuris. Theca ovalis, urniformis, peristomii dentibus rubris brevibus parum pertusis.

Hab. Andes Quitenses, in monte Chimborazo ad rivulos, *Spruce,* n. 132.

Caulis ½-uncialis. Folia ½ lineam longa, viridia, apicibus canis.

4. G. ANDINA (*Mitt.*). Laxe pulvinata. Folia patentia, apice latiuscula, obtusiuscula acutave, apiculo parvo hyalino dentato terminata, nervo infra apicem evanido carinata, marginibus præcipue uno latere late reflexis, cellulis a basi ad apicem usque omnibus rotundatis obscuris, limitibus angustis; perichætialia majora, elliptico-oblonga, obtusa, concava, marginibus recurvis, cellulis inferioribus oblongis pellucidioribus, superioribus brevioribus apice quadratis obscuris. Theca urniformis, peristomii dentibus rubris.

Hab. Andes Quitenses, in monte Carguairazo in rivulis, *Spruce,* n. 132 *c.*

Caulis ½–¾-uncialis. Folia ¾ lineæ longa, viridia, fusca v. nigrofuscescentia.

A speciebus affinibus cellulis foliorum ubique rotundatis statim cernenda.

5. G. ANGUSTIFOLIA (*Mitt.*). Compacte pulvinato-cæspitosa. Folia patentia, superiora pilo hyalino dentato terminata, superne carinata, nervo percursa, marginibus uno latere late reflexis, cellulis basi ad latera paucissimis oblongis, interioribus angustis, superioribus chlorophylloso-obscuris, limitibus latiusculis pellucidis irregularibus; perichætialia majora, elliptico-lanceolata, concava, marginibus superioribus recurvis, cellulis inferioribus mediis elongatis angustis pellucidis. Theca urniformis, operculo planiusculo, rostro tenui, peristomii dentibus flavis brevibus perforatis.

Hab. Andes Quitenses, in summo monte Pichincha ad rupes, *Jameson.*

Caulis uncialis. Folia lineam longa, superiora fulva, inferiora nigrofusca.

E structura a *G. apocarpa* certe diversa species.

6. G. STREPTOPHYLLA (*Sulliv. Amer. Expl. Exped.* 1859, 8. t. 6). Monoica, parvula, laxe pulvinata. Folia dense imbricantia, spiraliter tristicha; perichætialia multo majora, elongato-oblonga, plicata, omnia obtusissima, subcontinuo-costata. Capsula urniformis, ovalis, 16-dentata, exannulata, operculo convexo umbonato; calyptra minima conica.

Hab. Andes Peruviæ, prope Banos.

"Eight to ten lines high, in loose blackish-brown cushions; leaves densely imbricate in three spiral rows."

7. G. SCHIEDEANA (*C. Müll. in Bot. Zeit.* 1855, 765). Cæspites densi, pulvinati, sordide virides; caulis erectus, innovando-ramosus, subhumilis. Folia caulina laxe conferta, inferiora concava obtusa depilia, cymbiformi-concava, superiora majora et in pilum longum albidum strictum denticulatum producta, omnia integerrima, margine erecta, recurvula, nervo valido sordide flavido excurrente percursa; cellulæ ad marginem basis laxiuscule parenchymaticæ, ad nervum flaviores densiores, apicem versus sensim minute quadratæ opacæ parum incrassatæ; prichætialia exserta, majora, longiora, basi angustata, margine tenuiter et laxe reticulata, sursum dilatata semiconvoluta, multo laxius areolata, longissime flexuose pilosa. Theca in pedunculo perbrevi fructum superante, emersa, aperta, urniformi-ovalis, macrostoma, parvula; calyptra glabra.

G. leucophæa, *Hornsch. in Musc. Mexic. a Deppe et Schiede lectis.*

Hab. Mexico, *Deppe et Schiede,* in locis haud designatis.

E notis illustratis facile cognoscenda. A *G. fuliginosa* theca emersa foliisque inferioribus depilibus jam recedit.

8. G. AMBLYOPHYLLA (*C. Müll. Syn.* i. 779). Pulvinata. Folia erecto-patentia, nervo percurrente superne carinata, marginibus recurvis, cellulis basilaribus infimis paucissimis oblongis lævibus, exinde elongatis sensim superne brevioribus parietibus crenulatis, apicem versus obscuris; perichætialia majora, subspathulato-elliptica, obtusa, excavata, nervo percursa, cellularum basilarium parietibus lævibus, superiorum crenulatis. Theca urniformis, peristomii dentibus rubris parum pertusis.

G. apocarpa, var., *Hook. f. et Wils.*

Hab. Magellan, Hermite Island, *J. D. Hooker.*

Caulis ½-uncialis. Folia caulina ½ lineam longa, fusco-viridia, perichætialia lineam longitudine parum excedentia. Theca ore amplo.

Ob folia perichætialia obtusa depilia et caulinarum structuram satis distincta.

9. G. APOCARPA (*Linn. Sp. Pl.* 1579, Bryum). Pulvinata. Folia patentia, in pilum hyalinum brevem acutum denticulatum producta, nervo percurrente superne carinata, marginibus recurvis uno latere reflexis,

cellulis basi ad nervum oblongis pellucidis, superioribus rotundatis obscuris, limitibus pellucidis; perichætialia ovali-lanceolata, acuminata, pilifera, marginibus recurvis, cellulis inferne elongatis superne rotundatis. Theca urniformis, peristomii dentibus rubris longiusculis parum pertusis.

Hab. Magellan, Hermite Island, *J. D. Hooker.*

Caulis $\frac{1}{2}$–$1\frac{1}{2}$-uncialis. Folia $\frac{3}{4}$ lineæ longa, viridia, rufo-viridia, fuscescentia.

10. G. FULIGINOSA (*Schimp.*; *C. Müll. Syn.* i. 778). "Dioica; pulvinata, semiuncialis, dichotome ramosa. Folia infernè parvula appressa acuminato-ovata, media et superiora conferta patula, apice incurva, sicca flexuosa, pilifera; perichætialia vaginantia. Theca minuta, ovalis, pedunculo paullo longiore, recto v. curvulo, operculo conico acuto, calyptra conica basi lacera; peristomio *G. obtusæ.*"

Hab. Mexico, in summo Pico de Orizaba (14,000 ped.), *Liebmann.*

Habitus *G. apocarpæ* var. *confertæ*; theca minor quam in congeneribus affinibus.—*C. Müll. l. c.*

11. G. LAXA (*C. Müll. in Bot. Zeit.* 1847, 801). "Dioica; laxe pulvinata, humilis, basi cohærens, flaccida, mollis, viridis, dein ferruginea et subtomentosa. Folia caulina laxe conferta, erecto-patentia, basi laxiuscule hexagone tenuiter pellucide reticulata, pilo longo denticulato terminata, superne molliter et multo minutius areolata, opace viridia, margine erecto; perichætialia basi multo laxius et longius reticulata. Theca vix emersa, erecta, longiuscule ovalis, macrostoma, brunnea, obsolete striata, dentibus late lanceolatis, calyptra parvula basi in lacinias inflexas fissa."

Guembelia laxa, *C. Müll. Syn.* i. 771.

Hab. Mexico, in monte Orizaba, *Deppe et Schiede*, n. 1070 *a.*

Folia innovationum imberbia s. mucronata, apice incurva; caulina speciminum viridissimorum ad alas striis nonnullis e seriebus simplicibus pluribus cellularum incrassatarum compositis ornata. *G. pulvinatæ* haud dissimilis, magis tamen ad *G. Hoffmanni* spectans.—*C. Müll. l. c.*

Sect. 2. *Eugrimmia*, C. Müll. Syn. i. 783.

12. G. IMBERBIS (*Kunze*; *C. Müll. Syn.* i. 788). Dense pulvinata, pusilla, subfastigiate ramosa, fusco-viridis, gracilis. Folia caulina madefacta erecto-patentia, brevia, curvula, carinata, canaliculate acuminata, margine medio folii revoluto, e cellulis basi rectangulari-hexagonis flavidis margine utrinque hyalinis, apicem versus sensim depresso-quadratis subopacis incrassatis firmis areolata, superiora apice plerumque curvato, acumine hyalino brevissimo acuto terminata; perichætialia basi latiora et tenuius reticulata. Theca in pedunculo parum arcuato minute ovalis, distincte et angustissime plicata, latiuscule annulata, operculo conico recto obtusiusculo, dentibus angustissime et breviter lanceolatis dense articulatis apice solo parum bifidis rufis glabris."—*C. Müll. l. c.*

Hab. Chili australis, ad rupes, *Pœppig.*

Folia perigonalia late ovata, apice breviter coarctato-acuminata, intima obtusiuscula, basi laxius reticulata, antheridiis turgide ellipticis breviusculis. Statura humili et foliis depilibus brevibus facile cognoscitur, *G. trichophyllæ* (Europæ) et affinibus similis.—*C. Müll. l. c.*

13. G. CONSOBRINA (*Kunze in Pœpp. Pl. Chil.*). "*G. trichophyllæ* simillima, sed folia superiora atque perichætialia basi multo tenuius longius et pellucidius reticulata, omnia longiora, molliora sub microscopio amœne luteo-viridia, perichætialia intima angustissima tenerrima; (theca) annulo angusto, dentibus angustissimis aurantiacis remote articulatis, usque ad basin in crura inæqualia apice tenuissime fissis."—*C. Müll. Syn.* i. 785.

Hab. Chili australis, *Pœppig.*

14. G. GIBERTI (*Mitt.*). Caules fasciculatim ramosi. Folia inferiora ovata, superiora oblongo-ovalia, nervo in pilum hyalinum minute denticulatum longe excurrente carinata, cellulis basilaribus pluribus parvis quadratis pellucidis, superioribus parvis rotundatis obscuriusculis. Theca in pedunculo brevi, ovalis, operculo breviter acuminato, calyptra pluriloba.

Hab. Brasilia, Monte Video, *Gibert,* n. 729, *in Herb. Hooker.*

Caulis 3–4 lineas altus. Folia superiora $\frac{3}{4}$ lineæ longa, viridia, inferiora fuscescentia, pilo in superioribus folii longitudine. Pedunculus lineam longus.

Habitu *G. pulvinatæ* Europæ simillima, statura autem graciliore, foliis margine vix recurvis, et florescentia diversa.

15. G. FUSCO-LUTEA (*Hook. Musc. Exot.* t. 63). Folia patentia, sensim in pilum hyalinum remote dentatum attenuata, nervo percurrente carinata, marginibus inferne recurvis uno latere anguste reflexis, cellulis inferioribus elongatis, basilaribus lævibus, superioribus limitibus latis crenulatis, versus folii apicem oblongis crenulatis; perichætialia majora, elliptica, subulata, thecam ovalem siccitate leviter plicatam superantia. Operculum conicum, peristomii dentibus breviusculis parum pertusis; annulus latus.

Hab. Mexico, in frigidis Tolucæ et Islahuacæ, alt. 1330 hexap., *Humboldt et Bonpland, Herb. Hooker.*

Caulis $\frac{1}{2}$–$\frac{3}{4}$-uncialis. Folia sesquilineam longa, fulva, nigrescentia.

16. G. HUMILIS (*Mitt.*). Pulvinate cæspitosa, gracilis, humilis. Folia erecto-patentia, sicca appressa, in pilum hyalinum subdentatum producta, nervo percursa, marginibus integerrimis, cellulis basi paucis elongatis ad angulos minoribus quadratis, superioribus parvis rotundatis obscurioribus; perichætialia majora, basi elliptico-lanceolata, pilo hyalino æquilongo terminata. Theca in pedunculo brevi, ovalis, horizontalis nutansve, sicca plicata, operculo convexo obtuso, peristomii dentibus brevibus, calyptra cucullata.

Hab. Magellan, ad Sandy Point, *Lechler.*

Habitu *G. orbiculari* Bruch. et Schimp. Europæ similis, foliis autem latioribus magis ovatis apice sensim in pilum transeuntibus, et statura minore recedens.

Sect. 3. *Guembelia*, Hampe in Bot. Zeit. 1846, 124, ex parte.

17. G. OVATA (*Web. et Mohr. Bryol. Europ.* t. 17 et 18). Monoica, compacte pulvinate cæspitosa. Caulis superne divisus. Folia erecto-patentia, inferiora apice latiuscula obtusa, superiora subulato-angustata cano-pilifera margine uno latere recurva, nervo percurrente carinata, cellulis basilaribus oblongis, lateralibus paucis rectangulis, superioribus parvis rotundis limitibus pellucidis; perichætialia erecta, majora, longius incana. Pedunculus brevis, vix vel parum ultra apices foliorum perichætialium productus. Theca oblongo-ovalis, olivaceo-fusca, basi subcallosa, operculo conico rostrato, peristomii dentibus fissis perforatisve, calyptra lobata.

Guembelia bogotensis, *Hampe in Ann. Sc. Nat.* ser. 5. iii. 375.

Hab. Guatemala, Volcan de Fuego, *Godman et Salvin.* Andes Bogotenses, Boqueron prope Bogotá ad saxa vulgaris (8500 ped.), *Weir*, n. 297, *et Lindig.* Andes Quitenses, Pichincha, *Jameson*; Carguairazo, Chimborazo, Titaicun, Pichincha, etiam in valle Pangor (10,000–11,000 ped.), *Spruce*, n. 133.

Caules ½–1 unciam alti. Folia juniora viridia, seniora nigricantia, sicca appressa.

Species ut videtur orbis totius regionum temperatarum incola.

18. G. LONGIROSTRIS (*Hook. Musc. Exot.* t. 62). Monoica, pulvinata. Folia lanceolata, obtusiuscula, superiora pilo hyalino denticulato terminata, nervo percursa, marginibus inferne late recurvis, cellulis basi paucis elongatis, superioribus abbreviatis subrotundis obscuris parietibus lateralibus subpellucidis crenulatis; perichætialia majora, inferne late ovalia, sensim subulata, apicibus hyalinis thecam oblongam superantibus. Operculum subulatum, peristomii dentibus subulatis fissis inferne subadhærentibus, apicibus sæpe cum operculo diffractis.

G. peruviana, *Sulliv. U. St. Expl. Exp.* 1859, 8, t. 5.

Hab. Andes Quitenses, Chimborazo, *Humboldt, Jameson.* Andes Peruvianæ (15,000 ped.), *ex Sullivant.*

Caulis ½–1-uncialis. Folia inferiora ½–¾ lineam longa, perichætialia 2-linearia, omnia flavo-viridia, fuscescentia. Theca ¾-linearis. Pedunculus lineam longas.

The figure given in the U. S. Expl. Exped. by Sullivant appears sufficiently near to this moss, notwithstanding that he states the inflorescence to be diœcious.

19. G. REFLEXIDENS (*C. Müll. Syn.* i. 795). Pusilla; ramis apice longe crinitis attenuatis. Folia caulina arcte appressa, madefacta minus patentia, inferiora curvula brevipilia, superiora superne margine plicata,

igitur veluti revoluta, longe sublævipilia, cellulis basi quadratis diaphanis, superne sensim rotundatis opacis; perichætialia longiora, latiora, basi laxissime quadrate hexagone reticulata, omnia crassinervia et margine erecto carinato-concava. Theca vix emersa, minute ovalis, macrostoma, glabra, rufo-fusca, operculo conico obliquo brevi, dentibus lanceolatis subintegris v. apice parum bifidis, dense articulatis rugulosis rufis angustis, siccitate usque ad thecæ parietem reflexis.—*C. Müll. l. c.*

Hab. Chili australis inter *G. consobrinam*, *Pœppig.*

G. leucophææ Grev. Europæ similis.—*C. Müll. l. c.*

Sect. 4. *Dryptodon*, Brid. i. 191.

20. G. RUPESTRIS (*Hook. f. et Wils. in Hook. Lond. Journ.* iii. 544; *Fl. Antarct.* ii. 402, t. 152. f. 1). Dense cæspitosa. Folia a basi erectiore patentia, nervo superne carinata, margine uno latere parum recurvo erectove, cellulis basilaribus angustissimis, parietibus longitudinalibus latis crenulatis, transversalibus inconspicuis, superioribus obscuris; perichætialia longiora, oblonga, inferne erecta, convoluta, superne erecto-patentia obtusa. Theca in pedunculo brevi, ovalis, operculo subulato, peristomii dentibus angustis rubris.

Hab. Magellan, Hermite Island, *J. D. Hooker.*

Caulis 1½–3-uncialis. Folia lineam longa, nigro-viridia. Pedunculus 1½-linearis.

21. G. CUCULLATIFOLIA (*Hampe in Linnæa*, xxxii. 143, Rhacomitrium). Laxe cæspitosa, caulis inferne decumbens. Folia patentia, obtusa, canaliculata, nervo sub apice evanido, marginibus inferne recurvis, uno latere latius reflexis, cellulis elongatis angustissimis crenulatis in angulis decurrentibus paucis suboblongis fuscis; ("perichætialia convoluto-appressa, conformia. Seta vix uncialis, gracilis, erecta, substricta, fusco-lutescens. Theca elliptico-cylindrica, flavescens, demum brunnescens, nitida, ore rubro cincta, operculo e basi umbonata subulato subrecto apice croceo; calyptra angusta, apice scabriuscula, basi lobata, fusca, mitriformis, peristomii dentibus ad basin fissis subulatis fusco-luteis annulo circumdatis."—*Hampe, l. c.*)

Hab. Andes Novo-Granatenses, Bogotá, La Penna et Chapinero, ad saxa rorida riparia (2700–3000 metr.), *Lindig*; in descensu a Paramo ad Choachi, ad arbores, *Weir*, n. 361, 409.

Caulis gracilis. Folia lineam longa, mollia, viridia.

22. G. DIDYMA (*Mont. in Ann. Sc. Nat.* ser. 3. iv. 122). "Folia undique patentia, vix subsecunda. Theca cylindracea, anguste annulata, operculo recte rostrato, theca dimidia breviore, dentibus latiuscule lanceolatis lacunosis quartam diametri thecæ partem æquantibus, madore inflexo-conniventibus."—*C. Müll. Syn.* i. 802.

Hab. Chili australis, *C. Gay.*

Pedunculi interdum geminati, unde nomen triviale.—*C. Müll. l. c.*

23. G. CONVOLUTA (*Mont. in Ann. Sc. Nat.* ser. 3. iv. 122, Rhacomitrium). Procumbens, dichotome ramosa, ramis fastigiatis, siccitate incurvatis, brevissime ramulosis, sordide viridibus. Folia margine reflexa, integerrima, evanidinervia, madore subrecurva, sicca imbricata, firma, minute dense areolata; perichætialia convoluta, rotundato-obtusissima. Theca in pedunculo pseudolaterali erecto posita, calyptra striata glabra basi laciniata.—*C. Müll. Syn.* i. 802.

Hab. Chili, in truncis arborum, *C. Gay.*

Ex habitu *G. patenti* v. *G. didymæ* proxima, ab ulteriore foliis acutiusculis et perichætialibus convolutis rotundo-obtusissimis facile distinguitur. —*C. Müll. l. c.*

24. G. NIGRITA (*C. Müll. Syn.* i. 801). Folia patentia, nervo percurrente carinata, marginibus recurvis reflexisve, cellulis basilaribus parietibus longitudinalibus crassis valde crenulatis, transversalibus inconspicuis, superioribus subquadratis oblongisque indistincte transverse limitatis crenulatis obscuris; perichætialia breviora, oblonga, obtusiuscula, acuta. Theca in pedunculo breviusculo, elliptico-cylindracea, pallida, operculo subulato, peristomii dentibus rugulosis fissis, calyptra apice scabra.

Rhacomitrium protensum, var., *Hook. f. et Wils.* et R. fasciculare, var., *eorund.*

Grimmia symphyodonta, *C. Müll. Syn.* i. 809.

Hab. Magellan, Hermite Island, *J. D. Hooker*; Sandy Point, *Lechler*; Patagonia, *Lobb.*

Caulis 1–3-uncialis. Folia 1¼ lineam longa, nigricantia. Pedunculus 2-linearis. Theca lineam longa.

Excepting in colour, there appears to be no difference between the specimens named respectively *G. nigrita* and *G. symphyodonta*; the foliage varies from green to yellowish brown and black. The stems in the specimens named *G. symphyodonta* are more elongated; but the ramification is that of *Dryptodon*, and not of *Rhacomitrium*.

25. G. CYLINDRICA (*C. Müll. Syn.* i. 805). *G. microcarpæ* simillima, sed differt statura majore robustiore, theca longiore anguste cylindrica.—*C. Müll. l. c.*

Hab. Mexico, Pico de Orizaba, *Liebmann.*

Sect. 5. *Rhacomitrium*, Brid. i. p. 207.

26. G. CONTERMINA (*C. Müll. Syn.* ii. 655). "Dioica; *G. lanuginosæ* simillima sed minus lanuginosa, et folia in pilum angustissimum vix flexuosum subintegerrimum attenuata, lævissima, profunde canaliculata, ubique fere margine valde revoluta, e cellulis ubique elongatis haud interruptis ad parietes punctulate crenulatis areolata."

Hab. America centralis, Costa Rica (5000–8000 ped.), *Œrsted.*

A *G. canescente* foliis lævissimis, a *G. heterosticho* folii areolatione et habitu, a *G. crispipilo* pilo folii integro vix flexuoso certe differt. Sterilis tantum nota.—*C. Müll. l. c.*

27. G. LANUGINOSA (*Dill.*; *Brid.* i. 215). Rami elongati, dense ramulosi. Folia patentia, hic illic subsecunda, partibus omnibus hyalinis papillis dorso scabris, marginibus inferne præcipue uno latere late reflexis, nervo percursa, cellulis inferioribus angustissimis elongatis torulosis; perichætialia erecta, convoluta, late oblonga, apice subito longe subulata, flexuosa. Theca in pedunculo breviusculo, ovata, operculo subulato, peristomii dentibus angustissimis elongatis.

Hab. Magellan, Hermite Island, *J. D. Hooker*; Cabo Negro, *Lechler*, n. 1087; Chili, Valparaiso, *Herb. De Notaris*; insula Chiloe, *Lobb*; in archipelago Chonotica, *Darwin.* Andes Quitenses, in Cordillera occidentali ad Pangor (9500 ped.), *Spruce*, n. 134. Andes Bogotenses, Tolima, *Goudot.*

Caulis 2–6-uncialis. Folia longitudine 2-linearia, viridia, fulva nigrescentiaque, apicibus plus minus hyalinis, in speciminibus australioribus magis incanis. Pedunculus 2-linearis. Theca parva $\frac{3}{4}$ lineæ longa.

28. G. CRISPIPILA (*Tayl. in Hook. Lond. Journ.* v. 47, Trichostomum). Rami elongati, inferne decumbentes, ramosi. Folia patentia, in ramorum apicibus subsecunda, nervo superne carinata, marginibus uno latere late reflexis, cellulis elongatis parietibus crenulatis transversalibus inconspicuis; perichætialia magna, late ovalia, convoluta, breviter acuminata. Theca in pedunculo breviusculo anguste cylindraceo, elongata, arcuata, operculo subulato, peristomii dentibus elongatis angustis; calyptra lævis.

Hab. Andes Quitenses, *Jameson*; in Cordillera occidentali ad Pangor (9500 ped.), *Spruce*, n. 135; in monte Tunguragua (10,000 ped.), *Spruce*, n. 135 *b*; in monte Chimborazo (10,000 ped.), *Spruce*, n. 135 *c*. Andes Novo-Granatenses (inter *Stereocaula*, n. 1005), *Funck et Schlim.* Andes Peruvianæ in Cordillera, *Lechler*, n. 3119.

Caulis 2–3-linearis, ramulis pluribus pinnatus. Folia $1\frac{1}{2}$-linearia, fulva, nigro-fuscescentia. Pedunculus 5 lineas longus. Theca $1\frac{1}{2}$-linearis.

Habitus *G. fascicularis* Brid. (hemisphærii borealis), sed robustior.

29. G. LÆVIGATA (*Mitt.*). Rami elongati, ramulis brevibus. Folia densa, patentia, plica media latiuscula, superne canaliculata, inferne etiam plicis lateralibus exarata, nervo tenui ultra medium obsoleto, marginibus late recurvis reflexisque, cellulis omnibus angustis crenulatis fere lævibus, alaribus nullis.

Hab. Magellan, Hermite Island, inter cæspites *G. lanuginosæ*, *J. D. Hooker.*

Rami 2-unciales, ramulis lineam longis. Folia 2-linearia, flavescentia.

Species *G. canescenti* parum robustior, eique forma foliorum nervoque evanescente simillima, cellulis autem lævibus, alaribus (in *G. canescente* valde conspicuis) omnino deficientibus distincta.

26. GLYPHOMITRIUM, Brid. i. 267.

Brachysteleum; *Reich.*; Ptychomitrium, *Bruch et Schimper, Bryol. Europ.*; Notarisia, *Hampe.*

Musci pulvinatim cæspitosi, caulibus densifoliis plus minus elongatis. Folia subulata, canaliculata, firma, crassiuscule nervata, siccitate crispata, cellulis obscuris. Thecæ in pedunculo sæpius breviusculo, ovales cylindraceæve, operculo subulato, peristomii dentibus ut plurimum inæqualiter divisis, interdum laciniis filiformibus, calyptræ plicis lævibus vel interdum dentatis. *Habitatio* ad saxa rupesque, rarius in arborum truncis.

Folia serrata.	
Calyptra superne aspera.	
Folia inferne ovalia, sensim superne subulato-angustata.	1. *G. rugosum.*
Folia lato-lanceolata	2. *G. Lindigii.*
Calyptra superne dentata.	
Folia elongate lanceolata	3. *G. lepidomitrium.*
Folia inferne ovalia, sensim subulato-angustata.	4. *G. lobuliferum.*
Calyptra lævis	5. *G. serratum.*
Folia integerrima.	
Folia a basi latiuscula ovata, sensim subulato-angustata.	6. *G. Sellowianum.*
Folia a basi latiore ovali longe ligulata, obtusa	7. *G. ligulatum.*
Folia lanceolata, acuta	8. *G. fernandesianum.*
Folia lineari-lanceolata, apice obtusa, cucullata	9. *G. chimborazense.*

1. G. RUGOSUM (*Mitt.*). Folia a basi erectiore patenti-incurva, nervo percurrente carinata, marginibus inferne reflexis superne serratis, cellulis basi paucis oblongis, superioribus minutis rotundis obscuris. Theca in pedunculo breviusculo, elliptica, operculo subulato; calyptra apice rugosa, nuda.

Hab. Mexico, *Humboldt*, n. 63; *Herb. Hooker.*

Caulis uncialis, ramosus. Folia fere 2 lineas longa, fusco-viridia, sicca incurvata crispata. Pedunculus 2-linearis. Theca lineam longa.

2. G. LINDIGII (*Hampe in Linnæa*, xxxii. 144). Monoicum, laxe cæspitosum, parum cohærens, fusco-viride; caulis subrobustus, parce diviso-ramosus, basi attenuatus, apice subclavatus, undique foliatus. Folia dense imbricata, laxe accumbentia, apice uncinato-tortilia, humida erecto-patula, inferiora parum recurvata, carinato-concava, medio et lateribus canaliculato-plicata, apice grosse serrata, nervo valido percursa, acuta, cellulis basilaribus pentagonis, intermediis angustioribus linearibus, cæteris brevibus subrotundo-angulatis seriatis, fusco-lutescentia. Seta solitaria

vel 2–3 aggregatæ, flavescentes, breves, erectæ, parum tortiles. Theca elliptico-cylindrica, glabra, tenuissime striata, ore cingulo rubro angusto notata, operculo conico subulato recto tertiam partem thecæ metiente aurantiaco; calyptra nitida, subtiliter striata, basi laciniata, apice aspera, peristomii dentibus profunde divisis vel per paria approximatis longe subulatis glabriusculis purpurascentibus.—*Hampe, l. c.*

Hab. Andes Bogotenses, Bogotá Los Laches, ad rupes et saxa umbrosa (2800 metr.), *Lindig.*

G. lepidomitrio proximum, differt calyptra basi nuda nec pilis nec squamulis tecta.—*Hampe, l. c.*

3. G. LEPIDOMITRIUM (*Schimp.*; *C. Müll. Syn.* i. 767, Brachysteleum). "Habitus, foliorum forma et flores *G. polyphylli*; diversum foliis e medio ad apicem densius et angustius dentatis, thecis in pedunculo brevioribus anguste cylindraceis, sæpe 2–3 aggregatis, calyptra longiore, apice spinosa, inferne pilis brevibus et squamulosis instructa, dentibus paulo brevioribus."

Hab. Mexico, in monte Orizaba, *Liebmann.*

4. G. LOBULIFERUM (*Mitt.*). Folia densiuscule inserta, inferne erectiora, erecto-patentia, incurva, nervo percurrente carinata, marginibus inferne recurvis superne serratis, cellulis basi paucis oblongis, interioribus angustis elongatis, superioribus minutis rotundatis obscuris. Theca in pedunculo brevi, elliptica, operculo subulato, peristomii dentibus elongatis rubris; calyptra infra medium thecæ descendens, profunde fissa, apice lobato-dentata.

Hab. Andes Bogotenses, Bogotá in loco Boqueron (8500 ped.), ad rupes humidos, *Weir*, n. 198.

Caulis ½–1-uncialis. Folia 2½ lineas longa, viridia, nigrescentia, sicca cirrhoso-contorta. Pedunculus 2-linearis.

5. G. SERRATUM (*Schimp.*; *C. Müll. Syn.* i. 768, Brachysteleum). *G. polyphyllo* simillimum, sed differt foliis latioribus obtusiusculis, apice argute serratis, haud plicatis, theca pedunculo breviore et dentibus minoribus.

Ptychomitrium serratum, *Schimp. in Bryol. Europ. memoratum.*

Hab. Mexico, Pico de Orizaba cum *G. lepidomitrio*, *Liebmann.*

6. G. SELLOWIANUM (*C. Müll. Syn.* i. 769, Brachysteleum). Folia a basi erectiore patentia, incurva, nervo percurrente carinata; marginibus integerrimis inferne reflexis, cellulis basilaribus ad latera pellucidioribus oblongis, internis elongatis, superioribus minutis rotundatis obscuris. Pedunculus brevis, folii longitudine. Theca fere ovalis, basi plicata, operculo subulato, peristomii dentibus brevibus granulosis; calyptra ad thecæ medium descendens, fusca.

Brachysteleum crispatum, *Hornsch. in Mart. Fl. Bras. Musc.* 20?

Hab. Brasilia, in sylvis prope Constitutão ad arborum truncos (2000 ped.), *Weir*, n. 34; in campis Montevidensibus, *Sellow*; in ins. Sancta Catharina, *Blumenau.*

Caulis $\frac{1}{2}$–$\frac{3}{4}$-uncialis. Folia 2-linearia, fusco-viridia, sicca incurva crispata. Pedunculus 2-linearis. Theca cum operculo lineam longa.

7. G. LIGULATUM (*Mitt.*). Humile, pulvinatum. Folia inferiora minora, comalia seu perichætialia erecto-patentia, nervo supra medium ob folii structuram densam obscuratam inconspicuo, infra apicem evanido, cellulis basilaribus pellucidis oblongis, superioribus rotundatis obscuris. Theca in pedunculo foliis perichætialibus longitudine æquali, obovata, subpyriformis; calyptra fusca.

Hab. Fuegia, Hermite Island, *J. D. Hooker.*

Caulis 2–3 lineas longus. Folia longiora lineam longa, fusca, rigida.

8. G. FERNANDESIANUM (*Mitt. in Journ. Linn. Soc.* 1859). Caulis robustus. Folia a basi erectiuscula patentia, incurva, nervo crasso lato percursa, margine integerrima, cellulis basilaribus paucis oblongis parallelogrammicis, cito abbreviatis, superioribus minutis rotundatis distinctis, parietibus pellucidis; perichætialia conformia. Theca in pedunculo trilineari, parva, ovali-cylindracea, operculo æquilongo subulato; calyptra apice subscabra.

Hab. Ins. Juan Fernandez, *Bertero*, n. 1591, *et Cuming*, n. 1486.

Species ex habitu *G. crispato* Africæ australis similis, sed robustior, foliorum nervo crasso et thecarum minutie a reliquis facile distincta.

9. G. CHIMBORAZENSE (*Spruce*). Cæspites pulvinati compacti; caulis parum divisus. Folia a basi oblonga erecta, cellulis teneris oblongis rectangulis pellucidis areolata, patentia, canaliculata, margine inferne recurva, cellulis minutis rotundis obscuris. Theca in pedunculo tenui brevi pallido, ampla, breviter ovalis, leptoderma, sicca foveolata, ore magno rubro, operculo convexo, rostro tenui elongato, peristomii dentibus subulatis irregularibus fissis perforatis imperfectisque; calyptra usque ad thecæ collum descendens eamque amplexans, demum profunde lobata.

Hab. Ins. Sti. Vincentis, *Herb. Hooker.* Andes Quitenses, Chimborazo, *Jameson*, et ad pedem orientalem præcipue secus oppidum Guano, in saxis (8500–11000 ped.), *Spruce*, n. 136.

Caulis 1–1$\frac{1}{2}$ uncias alti. Folia juniora luteo-viridia, inferiora nigricantia, sicca incurvo-crispata. Pedunculus 1$\frac{1}{2}$-linearis. Theca pallide ochracea. Calyptra straminea.

Tribus III. LEUCOBRYEÆ.

27. OCHROBRYUM, gen. nov.

Musci compacte cæspitosi, dichotome ramosi. Folia canaliculata. Thecæ parvæ, immersæ. *Habitatio* ad arborum truncos et in terra.

1. O. **Gardnerianum** (*C. Müll. Syn.* i. 85, Leucophanes). Dense cæspitosum. Folia erecto-patentia, in caulium apicibus interdum subsecunda, inferne subelliptica, superne angustata, apice cucullato incurvato obtusiusculo, marginibus incurvis canaliculata, lamina basi angustissima, e cellulis hyalinis elongatis angustis composita, longe infra folii medium evanida, nervi cellulis oblongis latis rectangulis; perichætialia conformia, superne parum latiora. Theca in pedunculo brevissimo, parva, cyathiformis, immersa, operculo longissimo subulato recto; calyptra angusta, ad basin operculi descendens, breviter multifida, laciniis breviter fimbriatis.

Schistomitrium Gardnerianum, *Mitt. in Hook. Kew Journ.* viii. 356, t. 12.

Hab. Fl. Amazon, *Spruce,* n. 73; Brasilia, *Gardner et Herb. Sowerby.*

Caulis ½–2-uncialis. Folia 1½-linearia, albo-viridia. Primo visu facies omnino *Leucobryi glauci* Americæ sept. et Europæ simillima, statura autem minor.

The following, second species has been described by Müller; but the description affords no distinctive character.

2. O. **obtusifolium** (*C. Müll.,* Schistomitrium). Folia anguste oblongo-lanceolata, profunde canaliculata, substricta, seniora perfecte obtusata, apicem versus margine conniventia membranaceo-cucullata, basi membranaceo-limbata et cellulis longis flavidis decurrentia; calyptra mitriformis.

Hab. Nova Granata; Santa Martha, Minca, alt. 1200 met. in sylvis super truncos arborum, *Funck et Schlim.* n. 913.

28. Octoblepharum, Hedw. Musc. Frond. iii. 15.

Musci compacte cæspitosi, caulibus fastigiatim ramosis subsimplicibusve. Folia rigida, sæpe supra basin omnino e nervo valde dilatato incrassatoque composita; perichætialia nulla conspicua. Thecæ ovali-cylindraceæ, operculo subulato, peristomii dentibus parvis teneris. *Habitatio* ad arbores vel ad rupes humidas.

Folia ligulata, obtusa.
  Peristomii dentes 8 v. 0.
    Theca sub ore constricta. (Peristomium nullum?) 1. *O. ampullaceum.*
    Theca cylindracea .... 2. *O. cylindricum.*
    Theca ovalis .... 3. *O. albidum.*
  Peristomii dentes 16.
    Theca elliptica.
      Peristomii dentes æquidistantes .... 4. *O. cocuiense.*
      Peristomii dentes geminati .... 5. *O. pulvinatum.*
    Theca ovalis. Peristomii dentes inæquales vel geminatim cohærentes. 6. *O. stramineum.*
    Theca adhuc ignota .... 7. *O. longifolium.*
Folia sensim angustata .... 8. *O. angustifolium.*

1. O. AMPULLACEUM (*Mitt.*). Caulis humilis, dense cæspitosus. Folia a basi erectiore oblonga inæquali recurva, patentia, loriformia, apice obtusa mucrone parvo, lamina in parte folii erectiore tantum obvia, cellulis teneris oblongis areolata; perichætialia conformia. Pedunculus elongatus. Theca ovali-elliptica, microstoma.

Hab. Ins. Trinidad, *Crüger*; Guiana, *Appun.* Fl. Negro, San Carlos, et Andes Peruvianæ in monte Guayrapurina (3000 ped.), *Spruce*, n. 75.

Caulis ½ unciam altus. Folia angusta, 2 lineas longa. Pedunculus 4-linearis.

2. O. CYLINDRICUM (*Schimp.*; *C. Müll. Syn.* i. 87). Caulis flaccidus. Folia a basi erectiore ovali patentia, ligulata, acuta, nervo superne planiusculo crasso, lamina in parte ovali tantum obvia, cellulis teneris quadratis rhombeisque areolata; perichætialia conformia. Theca in pedunculo elongato, peristomii dentibus latiusculis teneris subpunctulatis.

Hab. Columbia prope Caripe, *Moritz*. Guiana, *Schomburgk*; Surinam, *Kegel.* Fl. Amazons, Igaripé dos Ramos, *Spruce*, n. 76.

Caulis gracilis. Folia 2½ lineas longa, albida, glauca. Pedunculus ½-uncialis.

3. O. ALBIDUM (*Linn. Sp. Pl.* 1583, Bryum). Caulis humilis. Folia a basi latiore inæquali breviter ovali erecta ligulata, obtusa, planiuscula, patentia, interdum recurva, apiculo brevi parvo terminata, nervo dilatato supra partem ovalem folium totum constituente, lamina e cellulis laxis anguste limitatis rhombeis pellucidis; perichætialia minora, structura conformia. Theca in pedunculo brevi, aurantiaca, operculo subulato, peristomii dentibus brevibus teneris inter se remotis sæpe pertusis.

Hab. Insula Jamaica; Cuba, *Wright*, n. 55. Nova Granata ad fl. Magdalena in arborum truncis et radicibus ubique in "tierras calientes" abundans (500 ped.), *Weir*, n. 382. Fl. Amazons, Pará, ins. Marajo, Obidos, &c.; fl. Negro vulgatissimum. Andes Peruvianæ, Tarapoto (2000 ped.), *Spruce*, n. 77. Brasilia, *Gardner*, in prov. Sancti Pauli et Parana ad arbores a mare usque ad alt. 2000 ped. vulgatissimum, *Weir*, n. 56.

Caulis 3–12 lineas altus. Folia 3-linearia, albida, cellulis iridescentibus. Pedunculus 3 lineas longus.

4. O. COCUIENSE (*Mitt.*). Caulis elongatus, decumbens. Folia a basi obovata inæquali erecta, nervo superne dilatato, inde elongata loriformia obtusa, apiculo parvo terminata, planiuscula, lamina basi in parte obovata e cellulis quadratis rhombeisque teneris pellucidis; perichætialia conformia. Theca in pedunculo elongato, peristomii dentibus elongatis, pallide fuscis, interdum pertusis.

Hab. Fl. Negro, in monte Cocui, in palmarum truncis, *Spruce.*

Caulis unciam longus. Folia pallida, longitudine 4-linearia. Pedunculus ½-uncialis.

5. O. PULVINATUM (*Dozy et Molk. Prodr. Fl. Bryol. Surin.* 6, t. 2,

Arthrocormus). Compacte cæspitosum. Folia a basi obovata erecta longe ligulata, apice obtusa, mucrone brevissimo, superne plana, inferne dorso convexa, lamina in parte obovata tenera, cellulis hyalinis quadratis oblongis rhombeisque areolata; perichætialia caulinis similia. Pedunculus gracilis, elongatus. Peristomii dentes teneri, angusti.

Hab. Ins. Sancti Vincentis, *Herb. Hooker.* Surinam, *Herb. Dozy et Molkenboer*; Pará, *Herb. Hooker*; Rio Cachoero, *Spruce.* Nova Granata ad fl. Magdalena in sylvis (100–300 ped.), *Weir*, n. 257.

6. O. STRAMINEUM (*Mitt.*). Dense cæspitosum. Folia a basi oblonga latiore erectiore patentia, ligulata, obtusa, mucrone minuto, nervo inferne croceo superne dilatato ultra partem oblongam fere semitereti, lamina in parte oblonga tantum obvia, cellulis pellucidis oblongis rhombeisque teneris; perichætialia parum angustiora. Theca in pedunculo breviusculo, ovalis, erecta, operculo subulato, peristomii dentibus elongatis teneris pallidis.

Hab. Fl. Negro, San Carlos, *Spruce.*

Caulis ½–1 unciam altus. Folia longitudine 3-linearia, pallide straminea, nervo basi intense croceo. Pedunculus 4 lineas longus. Theca fusca.

7. O. LONGIFOLIUM (*Mitt.*). Caulis elongatus. Folia a basi erecta obovata longe loriformia, patentia, apice obtusa, mucrone parvo, planiuscula, lamina folii basi tantum obvia, e cellulis laxis pellucidis quadratis rhombeisque areolata.

Hab. Fl. Uaupés, Panuré, in rupibus umbrosis semper sterile, *Spruce*, n. 78.

Caulis ½–2 uncias altus. Folia albescentia, fragillima, 6–7 lineas longa.

8. O. ANGUSTIFOLIUM (*Mitt.*). Humilis. Folia erecto-patentia, angusta, inferne anguste elliptica, sensim superne angustiora, apice apiculo paucidenticulato abruptove gemmifera, extus carinata angustissime limbata, margine infra medium angustissime recurvo, cellulis basi ad latera pellucidis quadrato-oblongis laminam folii formantibus, interioribus superioribusque obscurioribus nervum canaliculatum constituentibus.

Hab. Andes Quitenses, fl. Napo, *Villavicenzio.*

Leucophani octoblepharoidi simile, sed gracilior et foliis duplo angustioribus pallidioribusque distinctus.

29. LEUCOBRYUM, Hampe in Linnæa, xiii. 42.

Musci parum furcatim ramosi, caulibus plus minus elongatis. Folia margine involuta, canaliculata. *Habitatio* ad terram et ad ligna putrida.

Sect. 1. EULEUCOBRYUM. *Fructus ex apicibus caulium oriundus.*

Folia polysticha........................... 1. *L. glaucum.*
Folia octosticha .... 2. *L. sediforme.*

Sect. 2. PEGOPHYLLUM. *Fructus in ramulo brevi lateralis.*

Folia falcata, secunda .... 3. *L. Martianum.*
Folia reflexo-patula, flexuosa, sicca subcrispata.. 4. *L. crispum.*
Folia patentia, recurva, subsecunda .... 5. *L. longifolium.*
Folia patula, curvata, recurva .... 6. *L. megalophyllum.*

1. L. GLAUCUM (*Linn. Sp. Pl.* 1582, Bryum). Folia a basi oblonga subovata cauli appressa sensim subulato-angustata, apice obtusiuscule acuminata, patentia secundave, margine superne incurva, inferne lamina angusta, cellulis interioribus oblongo-quadratis, exterioribus elongatis; perichætialia exserta, longiora, inferne lata convoluta, apice subulata. Theca in pedunculo rubro, oblonga, curvata, inclinata, plicata, basi strumosa, ore inæquali, operculo longe subulato.

Hab. Ins. Jamaica, *Wilds, Wilson.* Andes Bogotenses, in monte de Morro (2200 metr.), *Lindig.* Venezuela (4000 ped.), *Funck et Schlim.* n. 361. Brasilia, *Herb. Sowerby.*

Specimina omnia sterilia, forsan melius ad *Ochrobryum* referenda.

2. L. SEDIFORME (*C. Müll. Syn.* i. 75). Dioicum, humile, parce ramosum. Folia brevissima, latissima, densissime imbricata, sediformi-squarrosa, exacte octosticha, oblongo-lanceolata, acuta, apice valde concava reflexiuscula, integerrima, ultra medium latiuscule marginata, stricta; perichætialia multo longiora, acutiora, angustiora, valde exserta, convoluta. Theca (pro plantulæ exiguitate) longe pedunculata, ovalis, cernua, inclinata, brevis, vix strumosa, exacte terminalis.—*C. Müll. l. c.*

Hab. Ins. S. Domingo, *Herb. Reg. Berol.*

L. vulgari proximum, sed foliis lurido-albis non glaucis *Sedi acris* instar dispositis squarrosis brevissimis et pro brevitate latissimis, fructuque exacte terminali distinctissimum.—*C. Müll. l. c.*

3. L. MARTIANUM (*Hornsch. in Mart. Fl. Bras. Musc.* 11, Dicranum). Folia a basi latiuscula ad insertionem contracta sensim angustata, apice acuta, margine incurva, canaliculata, inferne caviuscula, lamina angustissima inconspicua; perichætialia inferne ovali-orbiculata convoluta, inde anguste subulata. Theca in pedunculo elongato inclinata, obovata, plicata, basi strumosa, ore magno inæquali, operculo subulato, peristomii dentibus elongatis luteis dicranis.

Hab. Andes Bogotenses, Chucuri (1400 metr.), *Lindig*; in sylvis ad fl. Sogamoza, ad arbores prostratas (5500 ped.), *Weir,* n. 392. Surinam, *Herb. Dozy et Molkenboer.* Fl. Negro plurimis locis, ex. gr. S. Gabriel, S. Carlos, m. Cocui &c., in truncis putrescentibus, rarissime ad rupes, *Spruce,* n. 72.

4. L. CRISPUM (*C. Müll. Syn.* i. 78). Folia ambitu inferne subelliptica, inde sensim longe angustata, acuta, basi cauli appressa, obovata, excavata, exinde marginibus incurvis subconniventibus quasi longe subulata, lamina angusta e seriebus cellularum 5–6 conflata supra partem erectam obsoleta;

perichætialia parum minora, inferne convoluta, apicibus subulatis. Theca in pedunculo elongato, parva, inclinata.

L. tenuifolium, *Sulliv. in Proc. Amer. Acad.* 1861, 279.

Hab. Ins. Jamaica, *March*; Cuba, *Wright*, n. 43; Trinidad, *Crüger*. Columbia, *Moritz*; fl. Orinoco, in sylva Javita, et in Andibus Peruvianis in monte Picote et Guayrapurina (3000 ped.), *Spruce*, n. 70; Cerro Pelado prope Tarapoto in monte Picote (3000 ped.), *Spruce*, n. 71. Brasilia in Sierra dos Orgaos, *Beyrich*.

Caulis unciam altus. Folia 3-linearia. Pedunculus ½ unciam longus.

5. L. LONGIFOLIUM (*Hampe in Linnæa*, xiii. 42; *C. Müll. Syn.* i. 77). Caulis elongatus. Folia ambitu inferne subelliptica, sensim longe subulata, a basi subobovata erecta, marginibus incurvis subconvolutis, apice acuta, lamina angustissima e cellularum seriebus 4 composita, sensim superne angustata; perichætialia minora, inferne oblonga convoluta, superne subulata, angusta, acuta. Theca in pedunculo elongato, oblonga, inæqualis, inclinata, plicata, basi strumosa, operculo subulato.

Sphagnum clandestinum, *Beauv. MS. in Herb. Hooker.*

Hab. Ins. Jamaica, *Wilds.* Andes Peruvianæ in monte Guayrapurina (3000 ped.), *Spruce*, n. 71 *c*. Brasilia in locis pluribus, *Beyrich, Martius, et Herb. Sowerby.*

Caulis 3–4 uncias altus. Folia 9-linearia.

6. L. MEGALOPHYLLUM (*Raddi, Critt. Bras.* 3, Dicranum). Caulis elongatus. Folia ambitu inferne subelliptica, sensim superne angustata, a basi breviter ovali erecta, inferne excavata, concava, cauli appressa, inde marginibus incurvis conniventibus, apice acuta, sæpe radicantia, lamina basi angustissima, e seriebus cellularum elongatarum 4 composita, superne sensim evanescente; perichætialia parva, inferne oblonga, concava, convoluta, superne subulata, acuta. Theca in pedunculo elongato, breviter obovata, inæqualis, plicata, basi strumosa, ore magno obliquo, operculo longe subulato, peristomii dentibus latiusculis elongatis.

L. robustum, *Sulliv. in Proc. Amer. Acad.* 1861, 279.

L. giganteum, *C. Müll. Syn.* i. 79.

Hab. Ins. Jamaica, *Wilson*; Cuba, *Wright*, n. 44; Trinidad, *Crüger*; Barbadoes, *Parker*. Brasilia, ins. Sancta Catharina, *Macrae*.

Caulis 1–3 uncias altus. Folia 6 lineas longa, patula, recurva subsecundave. Pedunculus ¾-uncialis.

Tribus IV. SYRRHOPODONTEÆ.

30. SYRRHOPODON, Schwægr. Suppl. ii. 110.

Sect. 1. HELICONEMA. *Caulis erectus. Theca brevissime pedunculata. Calyptra parva, plurifida. Folia obscura, marginibus lamellatis.*

Folia limbo e lamellis tribus serrulatis marginata. . 1. *S. Spruceanus.*

Folia limbo bilamellato serrulato marginata...... 2. *S. cryptocarpus.*
Folia limbo subbilamellato integerrima .... 3. *S. xanthophyllus.*

Sect. 2. Eusyrrhopodon. *Caulis erectus. Theca pedunculata, exserta. Calyptra dimidiata. Folia limbo pallido vel hyalino marginata.*

Folia inferne integerrima.
Folia a basi quadrata ligulata, obtusissima, sicca cirrhosa. 4. *S. ligulatus.*
Folia angustissima, elongata, in canaliculum angustiorem longiusculum apice obtusiusculum producta .... 5. *S. Schwaneckeanus.*
Folia oblonga, superne latiora angulata, ligulata 6. *S. Gaudichaudi.*
Folia in vaginam excavata, linearia, acutiuscula, margine inflexa, pellucide serrata .... 7. *S. Hornschuchii.*
Folia sublanceolato-ligulata, obtusa .... 8. *S. inflexus.*
Folia inferne anguste elliptica, inde angustiora, longe anguste linearia, apice abrupta .... 9. *S. tenuifolius.*
Folia a basi latiore superne dilatata, subulato-lanceolata. 10. *S. iridans.*
Folia a basi oblonga longe loriformia, apice acuta. 11. *S. prolifer.*
Folia linearia, concava, nervo excurrente ...... 12. *S. parvulus.*
Folia a basi subelliptica angustata, linearia .... 13. *S. papillosus.*
Folia a basi vix latiore late oblongo-lanceolata, subspathulata. 14. *S. flexifolius.*
Folia a basi brevi angustiore late lineari-lanceolata, apice latiuscule acuta apiculatave .... 15. *S. helicophyllus.*
Folia a basi elliptica linearia, angusta, apice subabrupta. 16. *S. cryptodus.*
Folia a basi elongato-elliptica longe linearia, apice subabrupta, margine lævi, apice serrulata .... 17. *S. scaber.*
Folia a basi subelliptica longe anguste attenuata, apice subabrupta, denticulata .... 18. *S. flavescens.*

Folia inferne denticulis aculeiformibus ciliata serratave.
Folia a basi oblonga superne latiore angustata, lineari-ligulata, obtusiuscula .... 19. *S. recurvulus.*
Folia a basi obovato-oblonga dentibus elongatis superne ciliata, angustata, linearia, obtusiuscula .... 20. *S. Leprieuri.*
Folia a basi suboblonga superne latiore ciliata, inde angustata, linearia, obtusiuscule acuta.................. 21. *S. elongatus.*
Folia a basi subelliptica parce spinuloso-dentata linearia, apice subabrupta .... 22. *S. pusillus.*
Folia a basi latiore elliptica amplexante 4–6-dentata, lineari-lanceolata, apice obtusiuscula .... 23. *S. pallidus.*
Folia a basi oblonga superne latiore marginibus superioribus denticulis ciliata, inde angustata, linearia, obtusiuscula. 24. *S. sylvaticus.*

Folia a basi vaginante oblonga lanceolato-linearia, elongata, acuta, integerrima .... 25. *S. fragilis.*

Folia subelliptica, obtusa, in medio margine dentibus ciliiformibus pluribus approximatis fimbriata .... 26. *S. fimbriatus.*

Sect. 3. ORTHOTHECA. *Caulis erectus. Theca pedunculata, exserta. Calyptra dimidiata. Folia limbo concolori sæpe lamelloso marginata.*

Folia a basi latissime vaginante lineari-lanceolata. 27. *S. Berterianus.*

Folia a basi parum latiore anguste linearia, acuta. 28. *S. circinatus.*

Folia a basi breviuscula late obovata sensim angustata, ligulata, elongata, acuta .... 29. *S. Hobsoni.*

Folia a basi obovata margine minute crenulata contracta, subspathulato-ligulata, acuta .... 30. *S. Miquelianus.*

Folia a basi obovato-oblonga longe linearia, acuta. 31. *S. lycopodioides.*

Folia a basi oblonga angustata, longe linearia, acuta. 32. *S. rigidus.*

Folia a basi latiore ovali amplexante margine superne minutissime crenulata, longe subulata, sensim acuta .... 33. *S. rupestris.*

Folia a basi longe convoluta, superne maxime sinuato-dilatata, perichætialia exserta .... 34. *S. Urvilleanus.*

Folia a basi oblongo-amplexicauli lineari-lanceolata, plana. 35. *S. elatus.*

Folia a basi vaginante ligulato-lanceolata, apiculata. 36. *S. crispatus.*

Folia lineari-lanceolata, acutissima .... 37. *S. strigosus.*

Sect. 4. CALYMPERIDIUM. *Caulis erectus. Theca pedunculata, exserta. Calyptra dimidiata. Folia angusta, longe loriformia, limbo concolori marginata.*

Species unica .... 38. *S. venezuelanus.*

Sect. 5. THYRIDIUM. *Caulis repens ex apicibus ramorum fertilis.*

Folia a basi latiore superne dilatata subquadrata, ligulata, sensim angustata, apice obtusiuscule acuta .... 39. *S. fasciculatus.*

Folia a basi brevi angustiore oblonga ovatove-lanceolata, apicibus sæpe anomalis.................................. 40. *S. rubiginosus.*

Sect. 1. *Heliconema.*

1. S. SPRUCEANUS (*Mitt.*). Dioicus; caulis fastigiatim ramosus, laxe cæspitosus. Folia inferne latiora erectiora, sensim longe lineari-ligulata, obtusa, angulo parvo acuta, patentia, planiuscula, nervo crassiusculo dorso denticulis copiosis scaberrimo, sub summo apice abrupto, marginibus in parte erectiore serrulatis, in parte patente in lamellas abrupte desinen-

tibus, apice immarginato subcrenulato, cellulis superioribus rotundatis obscuris, inferioribus hyalinis spatium inter nervum et marginem utrumque æquidistans occupantibus oblongis, limitibus subrectangulis, fibris in spiram pluries tortis repletis, reliquis interioribus exterioribusque angustis elongatis inanibus; perichætialia ovalia, acuminata, acuta, minute serrulata, cellulis hyalinis conspicuis prosenchymaticis, fibris evidentioribus repletis. Theca immersa, ovalis, operculo a basi depresso in rostrum tenue producto, peristomii dentibus brevibus solidis æquidistantibus; calyptra vix ad basin operculi descendens, multifida, parva, fusca, lævis. Flores masculi gemmiformes, in apicibus caulium sæpe geminatim dispositi, ob innovationem etiam laterales.

Hab. Fl. Negro, ad Sao Gabriel, *Spruce*, n. 3.

Caulis 1–2 uncias altus, basi radicellis rufis præditus. Folia fulvo-viridia, lineam longa, sicca appressa, curvata.

2. S. CRYPTOCARPUS (*Dozy et Molk. Prodr. Bryol. Surin.* 14, t. 7). Dioicus, cæspitosus, humilis. Folia a basi erectiore patentia, ligulata, plus minus spathulata, obtusa, apiculo brevissimo, nervo dorso subscabro infra apiculum abrupte desinente, marginibus a basi usque ad folii medium teneris minute serrulatis, inde ad apicem bilamellatis, apice ipso immarginato integerrimo, cellulis superioribus rotundatis obscuris, hyalinis latiusculis fere totam partem erectiorem occupantibus, fibrillis obsoletis; perichætialia inferne oblongo-ovalia, superne acuminata. Theca immersa, ovata, operculo convexo, rostro tenui elongato, peristomii dentibus per paria approximatis.

Hab. Surinam, *Van Beek Vollenhoven, Herb. Dozy et Molkenboer.*

Caulis ½-uncialis. Folia lineam longa, sordide viridia, sicca appressa, curvata.

The description of the fruit and perichætial leaves is drawn from the figure in the 'Prodromus,' *l. c.*

3. S. XANTHOPHYLLUS (*Mitt.*). Dense cæspitosus. Folia a basi brevi erecto-patentia, dimidio inferiore ovali, superiore oblongo obtuso, nervo concolori percurrente apice dorso subscabro, marginibus incurvis superne subincrassatis, basi immarginata crenulata, cellulis hyalinis parvis spatium parvum triangulare utrinque occupantibus, inde cellulis elongatis flavis cito in rotundatas virides obscuriores transeuntibus areolata.

Hab. Fl. Negro ad terram et rupes São Gabriel, &c., etiam ad Javita, *Spruce*, n. 16.

Caulis ½-uncialis. Folia 1½-linearia, juniora flavo-viridia, inferiora rufescentia, sicca incurvata.

Sect. 2. *Eusyrrhopodon.* Folia tenera, pallida.

* Orthophyllum *et* Eusyrrhopodon, *C. Müll. Syn.* i. 534 et 540.

4. S. LIGULATUS (*Mont. Syll.* 47). Parvulus, cum capsula centime-

trum longus. Folia inferne laxius superne densius imbricata, e basi vaginante ad ⅓ pellucida, apice obtusissima aut emarginata, incurva, siccitate involuta, margine augmento maximo tenuissime crenulato-denticulato, singula scilicet cellula marginali quadrata extus bidentata, nervo percurrente. Capsula brevissime pedicellata, ovoidea.

Hab. Guiana, *Leprieur* (*Mont. l. c.*).

5. S. SCHWANECKEANUS (*C. Müll. in Bot. Zeit.* 1855, 763). "Dioicus?; cæspites prostrati humillimi; caulis parvulus simplex. Folia breviuscula, e glauco flavescentia, basi laxissime reticulata pellucida, margine cellulis minutis angustis tenuiter membranaceo-marginata, in canaliculum angustiorem longiusculum, margine pallide limbatum, apice obtusiusculo solo eroso-denticulatum et dorso parum papillosum, e cellulis minutissimis rotundato-quadratis areolatum, nervo valido pallido excurrente percursum producta. Cætera desunt."

S. flavescens, *Hampe in Linnæa,* xxv. 360.

Hab. Insula Porto Rico, in montibus Loquillensibus, ubi 1849 legit *Schwanecke.*

"*S. flavescens* noster, quocum Hampe commutavit, foliis triplo longioribus multo latioribus, margine usque fere ad apicem distincte revolutis, supra basin calloso-limbatam haud membranaceo-marginatam ubique glanduloso-papillosis valde opacis toto cœlo differt."—*C. Müll. l. c.*

6. S. GAUDICHAUDI (*Mont. in Ann. Sc. Nat.* ser. 2. ii. 376, t. 16). Humilis, cæspitosus, fastigiatim ramosus. Folia a basi erecta patentia, incurva, nervo concolori apice dorso setuloso carinata, marginibus limbo angusto hyalino summo apice serrulatis, cæterum integerrimis, cellulis superioribus minutis obscuris, papillis minutissimis, hyalinis partem erectiorem totam occupantibus; perichætialia conformia. Theca in pedunculo brevi, ovalis, vernicosa, operculo subulato, peristomii dentibus brevibus pallidis; calyptra ad thecæ basin descendens.

Hab. Fl. Negro ad São Gabriel et ad rivulum Tarumá, *Spruce,* n. 6 *b* et *c.* Brasilia, *Gaudichaud, Gardner,* n. 49, *Macrae.*

7. S. HORNSCHUCHII (*Mart. Fl. Bras. Musc.* 6). Erectus, fasciculato-ramosus, inferne subnudus, ramis dense foliosis. Folia rigidiuscula, tortilia, madefacta patentia, inferiora ovato-lanceolata denticulata, margine involuta, inde subulata, superiora longiora e basi membranacea pallidiore carinata, marginata, pellucide serrata, margine inflexo, rufescentia, nervo crasso ferrugineo plerumque ultra apicem excurrente; perichætialia latiora. Thecæ subinde geminatæ in pedunculis erectis longiusculis apice incrassatis erectæ, oblongæ, læves, fuscæ, operculis conico-subulatis obliquis duplo fere longioribus; calyptra subcampanulata, longa, glabra, straminea, apice fusca, latere fissa.—*C. Müll. Syn.* i. 528.

Hab. Brasilia, prov. Minarum Generalium et in regionibus flum. Amazonum, *Martius.*

8. S. INFLEXUS (*Mitt.*). Cæspitosus; caulis fastigiatim ramosus. Folia dense inserta, inferne erecto-patentia, apicibus erectis siccitate inflexis hamato-curvatisque, dimidio inferiore erectiore e cellulis quadratis hyalinis areolata, inde subcomplicata, marginibus undulatis, limbo angustissimo hyalino basi usque ad medium vix producto, inde ad apicem immarginata, nervo percurrente concolori apice scabro, cellulis superioribus minutis fere opacis ad margines prominulis, cæteris fere lævibus. Theca in pedunculo rubro, elliptica, rubra, peristomii dentibus brevibus.

Hab. Andes Bogotenses, inter *Octoblepharum albidum, Weir.*

Habitu staturaque *S. Gaudichaudi* simillimus, foliis autem obtusis, siccis minus crispatis, limbo supra medium marginis evanescente differt.

9. S. TENUIFOLIUS (*Sull. in Proceed. Amer. Acad.* 1861, Calymperes). Caulis brevis. Folia patentia, setiformia, rigida, inferne parum latiora, cellulis hyalinis areolata, apice denticulata, nervo concolori crasso rigido lævi percursa, cellulis superioribus parvis rotundis obscuris papillosis, marginibus limbo hyalino rigido circumductis; folia superiora fere duplo longiora (perichætialia?) cæterum conformia.

Hab. Cuba, ad lignum putridum, *Wright*, n. 45.

Caulis 1–2-linearis. Folia inferiora 4-linearia, superiora uncialia, sordide viridia, sicca immutata.

Calymperidii Mülleri, Dozy et Molk. Bryol. Javan., similis sed folia basi angustiora et quoad foliorum longitudine *C. macrophyllæ*, speciei foliis 2-uncialibus a beato Motley in Borneo lectæ, propinquior.

The hyaline margin of the leaf corresponds with that usually so conspicuous among the species of *Syrrhopodon*, but which is absent in *Calymperes.*

10. S. IRIDANS (*Mitt.*). Caulis elongatus, ramosus. Folia a basi erecta albida, cellulis nitidis iridicoloribus, patentia, sicca incurva, marginibus cartilagineis apicem versus spinuloso-denticulatis, nervo concolori apice dorso denticulato, cellulis superioribus minutis rotundatis, hyalinis totam basin occupantibus.

Hab. Ecuador, *Seemann, in Herb. Hooker.*

Caulis 2-uncialis. Folia angusta, 2-linearia.

One of the most robust of the species belonging to this group, and conspicuous for its thick white stem, produced by the imbrication of the pellucid sheathing bases of its leaves, in which the cells are iridescent.

11. S. PROLIFER (*Schwægr.* t. 180). Cæspitosus; caulis humilis. Folia a basi cauli laxe appressa, patentia, planiuscula, nervo pallido percurrente dorso lævi, marginibus limbo pallido apice denticulatis, cellulis hyalinis totam partem erectiorem occupantibus, superioribus minutis obscuris fere lævibus; perichætialia longiora, nervo apice dorso spinuloso,

ad basin thecæ cylindraceæ producta. Pedunculus gracilis, ruber; operculum subulatum.

Hab. Andes Bogotenses (2200 metr.), *Lindig ex Hampe.* Andes Peruvianæ, in monte Guayrapurina ad saxa (2500 ped.), *Spruce,* n. 7. Brasilia, *ex Hornschuch.* Rio Janeiro, *Milne,* in Sierra de Natividade, *Gardner,* n. 50. Columbia, *Moritz.*

Caulis ½-uncialis uncialisve, gracilis, rubro-radiculosus. Folia 1½-linearia, albo-viridia, sicca incurva. Pedunculus 3-linearis.

12. S. PARVULUS (*Schimp.*; *C. Müll. Syn.* ii. 544). Dioicus, gregarius v. cæspitulosus, humilis, parce ramosus, dense foliosus, pallide glauco-viridis. Folia patentia, sicca flexuosa, margine albida, summo apice serrulata et hic illic filamentorum brevium fasciculo instructa, nervo pallido, basi e cellulis magnis rectangularibus hyalinis superne punctiformibus chlorophyllosis prominulis areolata. Theca in pedunculo lineari v. bilineari erecta, parvula, oblongo-cylindrica, castanea, vernicosa, calyptra albida ad thecæ basin producta, operculo rostellato breviore, dentibus sub orificio oriundis brevibus lineari-lanceolatis stramineis.—*C. Müll. l. c.*

Hab. Mexico, prope Mirador.

E minoribus gentis *S. prolifero* similis, sed minor, foliis atque pedunculo brevioribus primo intuitu distinguendus.—*C. Müll. l. c.*

13. S. PAPILLOSUS (*C. Müll. Syn.* i. 543). Caulis brevis. Folia a basi erecta patentia, recurva, nervo concolori percurrente lævi, marginibus limbo hyalino apice denticulato circumductis, cellulis superioribus minutis obscuris papillis brevibus, hyalinis partem erectiorem totam occupantibus.

Hab. Venezuela, prov. Caracas (4000 ped.), *Funck et Schlim.* n. 358.

Caulis 3-linearis. Folia 4-linearia, sordide viridia luteo-viridiave.

14. S. FLEXIFOLIUS (*Mitt.*). Laxe cæspitosus; caules apicibus pallide luteis inferne fusci. Folia a basi erecta patentia, apicibus acutis planiusculis parcissime denticulatis, in statu sicco incurva, teretiuscule imbricata, nervo concolori percursa, marginibus limbo angusto hyalino integerrimo circumductis, cellulis hyalinis spatium usque ad apicem partis erectioris occupantibus, superioribus mollibus quadratis utriculo vix suffultis sublævibus.

Hab. Fl. Negro ad São Gabriel; fl. Uaupés ad Panuré, *Spruce,* n. 11.

Caules basi decumbentes, ramosi, vix unciales. Folia caulina structura iis *S. helicophylli* similia sed breviora, et statu sicco modo diverso disposita, caulem teretiusculum fingentia. Folia in apicibus ramorum interiora minora abbreviata, nervis e puncto versus folii medium filamentis angustis elongatis articulatis pallide viridibus onustis.

Although the leaves in this species, so far as can be seen in the specimens, are almost destitute of teeth, it is most probable that fruiting specimens would have the leaves more or less dentate.

15. S. HELICOPHYLLUS (*Mitt.*). Pulvinatus, laxe cæspitosus; caules inferne fusci, apicibus junioribus pallide luteis. Folia a basi brevi erectiore patentia, humida planiuscula, nervo tenui carinata, sicca singula in spiram rectam contorta, marginibus tenuibus concoloribus integerrimis, cellulis hyalinis ad apicem partis erectioris productis, inde quadratis laxis utriculo contracto laxe repletis lævibus. Fructus sæpe ex eodem perichætio plures; theca in pedunculo brevi cylindracea, operculo subulato æquilonga; calyptra ad thecæ basin descendens, pallida, apice rubra subscabra.

Hab. Fl. Negro, ad São Gabriel; fl. Uaupés ad Panuré, *Spruce*, n. 8.

Caulis uncialis. Folia humida mollia, cellulis satis magnis lævibus, sicca autem singula in spiram rectam pulchre contorta, directione tamen patente immutata.

Habitus *Orthotrichoideus.*

16. S. CRYPTODUS (*Mitt.*). Cæspitosus, humilis, pallidus. Folia setiformia, sicca immutata, a basi erectiore patentia, rigidula, nervo dorso apice spiculoso, inferne lævi, intus fere ad basin usque spiculoso, marginibus cartilagineis concoloribus, apice serrulatis, cellulis hyalinis partem ellipticam totam occupantibus.

Hab. Andes Peruvianæ, in monte Campana, *Spruce*, n. 7.

Caulis 2-linearis. Folia 2–3-linearia, pallide glauco-viridia.

S. prolifero subsimilis, foliis tamen siccitate rigidis angustioribus, nervis in foliorum pagina superiore setuloso-papilliferis, in pagina inferiore lævibus. A *S. papilloso* statura minore et papillis multo evidentioribus recedit.

17. S. SCABER (*Mitt.*). Humilis, cæspitosus. Folia a basi erectiore patula, sicca vix mutata, rigidula, nervo crasso utrinque scabro, dorso apice spiculoso subcarinata, marginibus concoloribus, cellulis obscuris utrinque papillosis, hyalinis partem ellipticam totam occupantibus. Theca in pedunculo brevi rubro, ovalis, operculo subulato; calyptra ad thecæ basin descendens, pallida.

Hab. Cuba, in truncis putridis, *Wright*, n. 46 (*S. prolifer*).

Caulis 3-linearis. Folia 3–4-linearia, pallide glauco-viridia. Pedunculus 4-linearis.

S. papilloso affinis, foliis autem magis carinatis rigidioribus, nervo utrinque scabro, a *S. prolifero* foliis longioribus angustioribus rigidioribus differt.

18. S. FLAVESCENS (*C. Müll. Syn.* i. 541). Humilis. Folia a basi erectiore patentia, nervo crasso intus extusque superne setulis scabro, apice dorso densiore setuloso, cellulis superioribus minutis obscuris, hyalinis laxis ultra folii partem ellipticam latiorem adscendentibus.

Hab. Ins. Trinidad, in monte Tochuche, *Crüger*; Sti. Vincentis, *Herb. Dickson*.

Caulis 3-linearis. Folia 4-linearia, densiuscula, setacea, sicca incurva, pallide fulva.

19. S. RECURVULUS (*Mitt.*). Densiuscule cæspitosus; caulis fastigiatim ramosus. Folia a basi erecta superne minute denticulata, patentia, recurvo-acuta, canaliculata, nervo hyalino percursa, marginibus superne undulatis inflexis, limbo angusto hyalino, apice nervoque dorso denticulatis, cellulis superioribus minutis obscuris papillosis, hyalinis partem erectam totam occupantibus; perichætialia minora. Theca in pedunculo gracili breviusculo, ovalis, nitida, fusca, operculo subulato, peristomii dentibus brevibus; calyptra ad thecæ basin descendens, pallida.

Hab. Ins. Cuba, *Wright*, n. 47 (*S. Gaudichaudi*).

Caulis ½–1-uncialis. Folia 1½-linearia, inferne albida, superne viridia, sicca contorta.

S. Gaudichaudi similis, foliis tamen angustioribus, apicibus recurvulis, et marginibus in parte inferiore erectiore ciliato-denticulatis diversus.

20. S. LEPRIEURI (*Mont. in Ann. Sc. Nat.* ser. 2. iii. 197, t. 3). Cæspitosus; caulis fastigiatim ramosus. Folia a basi erecta patentia, nervo concolori lævi apice dorso spiculoso, marginibus incurvatis flexuosis, limbo angusto hyalino apice denticulato, cellulis hyalinis partem latiorem totam occupantibus, superioribus parvis papillis aculeiformibus antice curvatis; perichætialia conformia. Theca in pedunculo rubro, oblonga, operculo subulato, peristomii dentibus flavis.

Hab. Guiana, *Leprieur ex Herb. Montagne*; ad fl. Negro et Uaupés, *Spruce*, n. 10.

Caulis ½–1-uncialis. Folia 1½-linearia, fusco-viridia, sicca incurva. Pedunculus 3-linearis.

21. S. ELONGATUS (*Sull. in Proceed. Amer. Acad.* 1861, 280). Cæspitosus; caulis elongatus, radiculosus. Folia dimidio inferiore erecta, dimidio superiore angustata, patentia recurvave, nervo concolori apice dorso spiculoso, marginibus limbo angusto hyalino ad partis erectioris apicem ciliato-dentatis inde remote serrulatis subintegerrimis, apice serrulatis, cellulis superioribus minutis obscuris papillosis, hyalinis partem erectiorem totam occupantibus; perichætialia apicibus magis spiculoso-denticulatis. Theca in pedunculo elongato rubro, cylindracea, operculo subulato, peristomii parvi dentibus rubris.

Hab. Ins. Cuba, *Wright*, n. 49; America australis, *Lobb in Herb. Hooker*.

Caulis 1½–4-uncialis, gracilis. Folia inter se remotiuscula, 2-linearia, flavescentia. Pedunculus uncialis. Theca linearis, castanea.

22. S. PUSILLUS (*Mitt.*). Cæspitosus, humilis. Folia a basi erectiore patentia, siccitate flexuosa, canaliculata, marginibus limbo cartilagineo medio lævi apice denticulato infra basin partis linearis parce spinuloso-dentatis vel lævibus, nervo crassiusculo concolori utrinque spiculoso, cel-

lulis parvis inter se subdiscretis utrinque breviter spiculosis, hyalinis totam fere partem ellipticam occupantibus. Theca in pedunculo brevi rubro, ovali-cylindracea.

Hab. Andes Bogotenses, Montaña de Sogamoza ad arborum vetustiorum truncos, *Weir*, n. 153.

Pallide glauco-viridis. Caulis 2-linearis. Folia 2–3-linearia. Pedunculus 3-linearis.

Primo visu *S. prolifero* simillimus, sed foliorum structura longe diversus. A *S. gracili* statura minore, foliis canaliculatis densissime spiculosis differt. A *S. spiculoso*, Hook. et Grev., Indiæ orientalis, quem structura foliorum simulare videtur, statura minore coloreque pallidiore recedit.

23. S. PALLIDUS (*Mitt.*). Caulis gracilis, laxe cæspitosus. Folia laxe inserta, a basi erecta patentia, in statu sicco immutata, marginibus incurvis, nervo concolori apicem versus dorso dense aculeato-denticulato, limbo viridi inferne ubi folii directio a basi erectiore in partem patentem vertere incipit dentibus aculeiformibus 4–6 utrinque armato, inde ad apicem usque remote denticulato subintegerrimo, apice ipso subabrupto denticulato, cellulis hyalinis totam partem latiorem occupantibus, superioribus minutis rotundatis pallide viridibus. Theca in pedunculo gracili trilineari, parva, ovali-cylindracea, operculo subulato; calyptra ad thecæ basin descendens, pallida, apice rubra.

Hab. Andes Quitenses, in sylva Canelos (3000 ped.), *Spruce*, n. 11.

24. S. SYLVATICUS (*Mitt.*). Cæspitosus; caulis superne ramosus. Folia patentia, nervo concolori intus minute aculeato dorso apice denticulato, marginibus flexuosis incurvatis, limbo hyalino serrato, cellulis hyalinis partem erectiorem totam occupantibus, superioribus minutis obscuris, papillis brevibus inconspicuis. Theca in pedunculo rubro, oblongo-elliptica, operculo subulato, peristomii dentibus pallidis elongatis in conum conniventibus rugulosis.

Hab. Andes Quitenses, in monte Abitagua sylvæ Canelos, ad cortices (5000 ped.), *Spruce*.

Caulis 1–2-uncialis. Folia pallide viridia, 2-linearia. Pedunculus 5-linearis. Theca linearis, rufa.

S. Leprieuri similis, sed major et foliorum papillæ inconspicuæ.

25. S. FRAGILIS (*Hampe in Ann. Sc. Nat.* ser. 5. iii. 342). Laxe cæspitosus, humilis, simplex vel diviso-ramosus, gracilis, fere uncialis, rufescens; caulis erectus, basi fusco-tomentosus, laxe foliatus. Folia e basi latiore carinata, humida erecto-patentia apice incurva, sicca complicata involuto-cirrata, nervo lutescente percursa et apiculata; cellulis in basi vaginante pentagono-quadratis vel abbreviato-parallelogrammicis, hyalinis, in lamina dense condensatis, punctatis, fere opacis. Seta gracilis, semiuncialis. Theca erecta, cylindrica, deoperculata.

Hab. Nova Granata, Sancta Marta (2000 metr.) in sylvis, *Schlim.*; Bogotá, Tequendama inter *Macromitria*, *Lindig*, quoque ad Pacho.

This is placed by Hampe in the section *Hyophilidium* of C. Müll. Syn. i. 528, which includes a number of species not referable to the genus *Syrrhopodon* as here understood.

26. S. FIMBRIATUS (*Mitt.*). Compacte cæspitosus; caules inferne radicellis purpureis intertexti. Folia erecto-patentia, incurva, teretiuscule imbricata, marginibus tenuiter pellucido-limbatis, superne incurvis, apice paucidenticulatis, cellulis hyalinis ad medium usque folii longitudinis productis, inde ad apicem usque minutis rotundatis pallide viridibus papillosis. Theca in pedunculo semiunciali rubro, ovalis, plicata, nitida, rubra, operculo subulato æquilonga; calyptra subplicata infra thecam descendens setam amplexans, a latere fissa, peristomii dentibus brevibus.

Hab. Fl. Negro et Uaupés, in sylvis humilioribus ad truncos, etiam in sylva Javita, ad caput fl. Atabapo, *Spruce*. n. 9.

Species pulcherrima, *S. ciliato* Hook. ex Archip. orientali accedens. In caulibus junioribus folia magis oblongo-spathulata ciliis subæqualiter per ambitu illorum dispositis inveniuntur.

Sect. 3. *Orthotheca*, Brid. i. 778. Folia firma, intense viridia, demum fuscescentia.

27. S. BERTERIANUS (*Brid.* i. 445, Dicranum, et 778, Orthotheca). Caules decumbentes, laxe cæspitosi. Folia a basi brevi erecta patentia, rigida, sicca vix mutata, fusco-viridia, nervo crasso concolori percursa, marginibus concoloribus basi in parte erectiore ubi latius evadunt crenulatis, exinde ad apicem usque crassioribus, angustissime bilamellatis denticulatis, cellulis hyalinis ultra medium folii basis productis, superioribus minutis pallide viridibus. Theca in pedunculo brevi, cylindracea, operculo subulato; calyptra fere ad basin thecæ descendens, lævis.

Hab. Andes Peruvianæ, in monte Guayrapurina, ad arbores (2500 ped.), *Spruce*, n. 5. Ins. Trinidad, *Crüger*; Sti. Vincentis, *Guilding*; Jamaica, *Wilson*; Porto Rico, *Bertero*. Brasilia tropica, *Burchell*, n. 3344–8.

28. S. CIRCINATUS (*Brid.* i. 446, Dicranum, et 779, Orthotheca). Cæspitosus. Folia e basi erectiore subintegerrima, inde patentia, nervo concolori percursa, apice dorso paucidenticulata, marginibus superne incrassatis anguste bilamellatis serrulatis, incrassatione inferne obsoleta, cellulis basi hyalinis paucis, superioribus oblongis flavidis, inde ad apicem usque parvis quadrato-rotundis obscuris. "Pedunculo perichætialibus longiore, theca erecta, ovata, subinæquali orificio subobliquo."—*Brid. l. c.*

S. sordidus, *C. Müll. Syn.* i. 537.

Hab. Venezuela, Carabobo (4000 ped.), *Funck et Schlim.* n. 617.

Caulis ½-uncialis. Folia sordide viridia.

29. S. HOBSONI (*Grev. in Ann. Lyc. N. York*, i. 271, t. 23, Calymperes; *Hook. et Grev. in Brewst. Edinb. Journ.* iii. 224). Dioicus; caulis

cæspitosus. Folia a basi erecta patentia, nervo concolori crasso apice dorso subserrulato percursa, marginibus limbo incrassato obscuro anguste bilamellato geminatim serrulatis, limbo ad basin partis elongatæ in fasciam explanato, margine crenulato, cellulis hyalinis basis erectioris $\frac{2}{3}$ occupantibus, superioribus minutis obscuris, papillis inconspicuis; perichætialia minora. Theca in pedunculo brevi gracillimo, ovalis, elliptica, collo sensim attenuato, ore parvo, operculo subulato theca parum breviore; calyptra theca brevior.

S. incompletus *et* S. semicompletus, *Schwægr.*

Hab. Guiana, *Hobson.* Ins. Cuba, *Wright,* 48, *et Herb. Montagne*; Trinidad, *Crüger.*

Caulis $\frac{1}{2}$–1-uncialis. Folia 2-linearia, densiuscula, viridia, sicca incurvata. Pedunculus 3-linearis.

S. surinamensi similis sed foliorum basis latior, cellulis hyalinis altius adscendentibus.

30. S. MIQUELIANUS (*C. Müll. Syn.* i. 535). Caulis breviusculus, cæspitosus. Folia a basi erectiore patentia, nervo concolori percursa, marginibus incurvis, limbo incrassato angustissimo bilamellato duplicato-serrulatis, limbo in parte obovata obsoleto, cellulis basi hyalinis spatium parvum, in parte obovata circiter $\frac{1}{4}$ occupantibus, superioribus flavis elongatis, sensim superne in rotundas virides subobscuras mutatis, papillis inconspicuis. Theca in pedunculo breviusculo, oblonga, operculo subulato, peristomio nullo.

S. surinamensis, *Dozy et Molk. Prodr. Bryol. Surin.* 12, t. 6.

Hab. Surinam, *Herb. Dozy et Molkenboer*; fl. Negro, São Gabriel, *Spruce,* n. 15.

Caulis $\frac{1}{2}$–1-uncialis.

S. Hobsoni et *S. circinato* similis, a priore autem foliis latioribus cellulis hyalinis paucioribus, ab altero forma foliorum basis obovata diversus.

31. S. LYCOPODIOIDES (*Sw. Fl. Ind. Occid.* iii. 766; *Schwægr.* 40, Dicranum). Caulis laxe cæspitosus, elongatus, adscendens. Folia laxe inserta, a basi erectiore patentia, nervo percurrente carinata, marginibus limbo angusto flavido serrulato e cellulis elongatis pellucidis circumductis, cellulis superioribus quadrato-rotundis crassiusculis pellucidis, cellulis hyalinis basin erectiorem totam fere occupantibus, interdum altius in folium adscendentibus; perichætialia longiora, superne angustiora, sensim angustata, nervo in aristam excurrente. Theca elongate elliptica.

Orthotheca lycopodioides, *Brid.* i. 778.

Hab. Andes Quitenses, in montibus Abitagua et Tunguragua (6000–7000 ped.), *Spruce,* n. 4. Andes Novo-Granatenses, in devexu a Paramo ad Choachi (7500 ped.), *Weir,* n. 261, et in sylvis prope Turmal ad arbores (7000 ped.), *Weir,* n. 379. In prov. Rio Hache Sierra Nevada (10,000 ped.), *Funck et Schlim.* n. 863. Ins. San Domingo, *Herb. Hooker.*

32. S. RIGIDUS (*Hook. et Grev. in Brewst. Edinb. Journ.* iii. 226).

Cæspitosus; caulis plus minus elongatus. Folia a basi erectiore patentia, canaliculata, nervo concolori excurrente, marginibus in folii basi superioribus limbo tenui inconspicuo spinuloso-dentatis, superne in parte folii lineari limbo sensim crassiore brevissime bilamellato serrato summo apice evanido serratis, cellulis superioribus quadrato-rotundatis obscuris inter se distinctis lævibus, cellulis elongatis vix usque ad medium partis oblongæ productis coloratis; perichætialia conformia. Theca in pedunculo elongato, ovalis, vernicosa, collo sensim attenuato, ore parvo, operculo subulato æquilongo rubro, calyptra ad thecæ basin descendente.

S. longisetaceus, *C. Müll. Syn.* i. 535.

Calymperes androgynum, *Mont. ex ipso in Sylloge.*

Hab. Ins. Guadelupe, *Perrottet*; Trinidad, *Crüger*; Sti.Vincentis, *Herb. Hooker*. Surinam, *Herb. Dozy et Molkenboer*. Fl. Negro et Uaupés (Panuré ad arbores), *Spruce*, n. 13. Andes Novo-Granatenses prope Bucaramanga (7000 ped.), in sylvis montosis ad arbores, *Weir*, n. 159.

Caulis uncialis altiorque. Folia 4 lineas longa, angusta, sicca curvata parum mutata, superiora viridia, inferiora rufescentia. Pedunculus 8-linearis.

33. S. RUPESTRIS (*Mitt.*). Caulis elongatus, cæspitosus. Folia divaricata recurvaque, rigida, nervo crasso dorso parce serrulato excurrente, marginibus limbo incrassato superne duplicato-serrulato inferne evanido, cellulis superioribus minutis ovalibus subobscuris, in parte ovali superiore oblongis flavidis, inferiore hyalinis spatium parvum vix ad ejus longitudinis $\frac{1}{3}$ productum occupantibus.

Hab. Fl. Negro et Uaupés, ad rupes umbrosas cataractarum, *Spruce*, n. 14.

Caulis 2–6-uncialis. Folia 4-linearia, viridia, flava, rufescentia, sicca laxe curvata.

S. circinato et *S. rigido* similis, sed folia rigidiora magis angustata.

34. S. URVILLEANUS (*C. Müll. Syn.* i. 540). Dioicus, *S. Berteriano* simillimus. Folia caulina e basi inferne brevissime pellucida fugacissima, superne e cellulis elongatis angustis flavidis incrassatis interrupte articulatis reticulata, haud limbata, sed grosse et inæqualiter serrata, minute areolata, opaca, sordide viridia, evanidinervia; perichætialia in cylindrum longe exsertum angustissimum congesta, longe flavide areolata. Theca in pedunculo breviusculo erecta, ovalis, majuscula, longiuscule peristomata. —*C. Müll. l. c.*

Hab. Brasilia, Ins. Sancta Catharina, *Dumont d'Urville*.

An potius generis *Holomitrii* species?

35. ? S. ELATUS (*Mont. in Ann. Sc. Nat.* ser. 2. iii. 198). Erectus, simplex vel parce ramosus. Folia undique imbricata, erecto-patentia, plana, solidinervia, margine incrassato denticulato.—*C. Müll. Syn.* i. 545.

Hab. Guiana Gallica, *Leprieur*.

36. S. CRISPATUS (*Hampe in Ann. Sc. Nat.* ser. 5. v. 335). Laxe

cæspitosus, parce innovando-ramosus, humilis, vix uncialis, olivaceo-viridis; caulis flaccidus, erectus, laxe foliatus. Folia carinato-recurva, apice argute sinuato-dentata, immarginata, cellulis brevi spatio basilaribus elongato-quadratis laxioribus teneris hyalinis, cæteris angulato-rotundatis dense aggregatis opacis, nervo valido rufescente percursa.—*Hampe, l. c.*

Hab. Andes Bogotenses, San Juan (1400 metr.), *Lindig.*

Forsan forma *Tortulæ arcuatæ?*

37. ? S. STRIGOSUS (*Brid.* i. 405, Oncophorus). Erectus, subramosus. Folia laxiuscula, patentissima, subreflexa, et quasi in globum expansa, colore infra obscure viridi, superne pulcherrime viridi-flavicante, siccitate undequaque contorta, crispata, carinata, margine incrassato integerrima, nervo crasso continuo in acumen excurrente.—*C. Müll. Syn.* i. 367.

Hab. Ins. Hispaniola, *Bertero?*

Sect. 4. *Calymperidium*, Dozy et Molk. Bryol. Javan. 51. Folia cartilaginea.

38. S. VENEZUELANUS (*Mitt.*). Caulis brevis. Folia a basi latiore obovata erecta, contracta, deinde erecto-patentia, longissime lineari-spathulata, apicibus abrupte obtusis, rigida, sicca parum curvata, marginibus concoloribus superne dentibus geminatis serrulatis, nervo crasso concolori percursa, cellulis hyalinis basin totam occupantibus, superioribus minutis rotundatis angulosis obscuriusculis.

Hab. Venezuela, *Schomburgk in Herb. Hooker.*

This species agrees in the substance of its leaves with *Calymperes lonchophyllum*, but is more rigid, the leaves retaining their position when dry, those of the lower portions of the stems being mostly broken off below their middle. The margin, although evidently thickened, does not differ in its areolation from the other parts of the leaf.

Sect. 5. *Thyridium*, Mitt. in Journ. Linn. Soc. 1868.

39. S. FASCICULATUS (*Hook. et Grev. in Brewst. Edinb. Journ.* iii. 225; *Schwægr.* t. 299). Rami cæspitosi, elongati, ramosi, adscendentes. Folia densa, a basi erecta patentia, canaliculata, nervo concolori percursa, marginibus undulatis minute serrulatis, limbo seriebus pluribus cellularum angustissimarum hyalinarum circumductis composito, cellulis hyalinis basin totam interiorem occupantibus, superioribus minutis rotundis obscuris; perichætialia interna latiora, vaginantia. Theca cylindracea, collo sensim attenuato, operculo subulato, peristomii brevissimi dentibus rubris.

Hab. Chili, *Lobb.*

Rami 1–3-unciales. Folia 2-linearia, luteo-viridia, sicca incurvata. Pedunculus 6-linearis. Theca lineam longa.

40. S. RUBIGINOSUS (*Mitt.*). Cæspitosus; rami graciles curvati. Folia

a basi erecta patentia, nervo rubro percursa, marginibus cellulis prominentibus crenulatis, cellulis hyalinis basilaribus in parte erecta ad margines limbo cellularum elongatarum angustarum flavidarum limitatis, inde ad apicem usque immarginatis, cellulis grossiusculis quadratis prominulis mollibus.

Hab. Fl. Orinoco, prope cataractas Maypures, ad arbores, *Spruce*, n. 18*b*.

Rami unciales, curvati, adscendentes. Folia lineam longa, intense rubiginosa.

31. CALYMPERES, Sw., Spreng. et Link, Jahrb. 1818, 1. t. 1.

Musci humiles, rarius caulibus elongatis. Folia ut plurimum densa, structura illis generis *Syrrhopodonti* omnino similia; genus autem calyptra plicata, basi pedunculum amplexante in statu fertili primo momento discernendum.

Sect. 1. HYOPHILINA. *Folia lata, subspathulata, sicca contracta.*

Limbus foliorum marginalis obsoletus.

- Folia rigida, convolutaceo-oblonga .... 1. *C. disciforme.*
- Folia late spathulato-lanceolata, obtusa .... 2. *C. Lindigii.*
- Folia oblongo-ligulata, basi angustata, apice obtusa acuminatave, anomala .... 3. *C. Richardi.*
- Folia a basi brevi latiore ligulata, obtusa........ 4. *C. parasiticum.*

Limbus foliorum inferne intramarginalis conspicuus.

- Folia a basi obovata contracta, longe ligulato-subspathulata, obtusiuscula, limbo superne incrassato duplicato subserrulato. 5. *C. erosum.*
- Folia a basi oblonga superne latiore subulata, sensim angustata, stricta, acuta abruptave, integerrima subserrulatave .. 6. *C. Guildingii.*
- Folia a basi vaginante superne sensim late dilatata anguste lanceolata, apice obtusa, subanomala, integerrima ...... 7. *C. Crügeri.*
- Folia a basi dilatata subovata, margine crebre serrulata, exinde sensim angustata, lineari-ligulata, obtusa, integerrima. 8. *C. platyloma.*

Sect. 2. HYMANTOPHYLLUM. *Folia angusta, elongata, loriformia, cartilaginea, pallida, limbo rigido concolori marginata.*

Species unica .... 9. *C. lonchophyllum.*

Sect. 1. *Hyophilina*, C. Müll. Syn. i. 523.

1. C. DISCIFORME (*C. Müll. Syn.* i. 525). Pulvinate cæspitosum, erectum, rigidum, crassum, subsimplex, sordide viride. Folia caulina parum incurva, madefacta valde patula; inferiora majuscula curvata, nervo dorso interdum scabro excurrente mucronata, integra, basi $\frac{1}{3}$ laxe areolata, cellulis amplis limpidis, margine flavide marginata, superne opace minute reticulata, tenuissime papillosa; superiora caulis sterilis apice caulis discum formantia, latissime ovata, acuta, planiuscula, nervo latissimo continuo, medio filis articulatis fasciculatis numerosis conglomeratis instructo, basi haud marginata, minus laxe, superne magis areolata. Theca

brevipedunculata, ovalis, operculo conico obliquo, calyptra plicata, ad plicas et summo apice scaberrima.

Hab. Surinam, prope Paramaribo in ramis tenuibus locorum valde humidorum et occultorum, *Kegel*; ins. Trinidad, *Crüger*.

Caulis e disco sæpe quasi polytrichoideo prolifer, qua nota species e distinctissimis.—*C. Müll. l. c.*

2. C. LINDIGII (*Hampe in Ann. Sc. Nat.* ser. 5. iii. 342). Dense cæspitosum, humile, usque unciale, intense viride; caulis subsimplex, parce ramosus, basi fusco-tomentosus, subfastigiatus, dense foliosus, rigidus. Folia decussata, laxe imbricata, humida concava erecto-patula, sicca laxe accumbentia, immarginata, integerrima, margine plus minus revoluta; nervo rufescente crasso excedente, apice incrassato globulifero, cellulis laxis angustato-quadratis, versus apicem minoribus, omnino lutescenti-diaphanis. Cætera desunt.

Hab. Nova Granata, Bogotá, Pacho ad radices arborum inter *Fabroniam*, *Lindig*.

Statura *C. Richardi*, sed *C. disciformi* C. M. proximum, differt foliis immarginatis et cellulis lævibus.—*Hampe, l. c.*

3. C. RICHARDI (*C. Müll. Syn.* i. 524; *Dozy et Molkenb. Prod. Pl. Bryol. Surin.* t. 3). Caulis humilis. Folia patentia, nervo crasso percurrente vel excedente gemmifero, marginibus incurvis, integerrimis, cellulis superioribus minutis obscuris, hyalinis spatium quadratum subobcordatum occupantibus; perichætialia cellulis hyalinis angustioribus ad medium folii usque productis. Theca in pedunculo brevi, ovalis, operculo breviter subulato; calyptra plicata apice subscabra thecam totam includens.

Hab. Fl. Amazonum, ad fl. Tapajoz ostia, *Spruce*, n. 18. Surinam (*Herb. Dozy et Molkenboer*); Guiana, *Herb. Hooker*; ins. Fernando-Noronha, *Darwin*; ins. Sti. Vincentis. Brasilia, Pernambuco, *Gardner*, n. 47.

Caulis 3-linearis. Folia lineam longa, viridia, nigro-fuscescentia. Pedunculus lineam longus. Calyptra 1½-linearis.

Nearly resembling the Tropical-African *C. Afzelii*, Sw.

4. C. PARASITICUM (*Sw. Fl. Ind. Occid.*, Encalypta, *Schwægr.* t. 16). Caulis humilis. Folia patentia, marginibus incurvis integerrimis, nervo concolori percursa, cellulis superioribus minutis obscuris, hyalinis basi spatium subrotundatum occupantibus, ad nervum altius in folio adscendentibus.

Brachypodium parasiticum, *Brid.* i. 149.

Hab. Hispaniola in ramis junioribus, *Swartz*. Andes Quitenses, ad fl. Pastasa infra Baños, *Spruce*, n. 2.

Caulis ½-uncialis. Folia 1½-linearia, viridia, cellulis hyalinis quam in affinibus minus distinctis.

Species *C. Richardi* affinissima, crescit etiam ut e fragmentis apparet in ins. Trinidad et in Brasilia ad Rio de Janeiro.

5. C. EROSUM (*C. Müll. Syn.* i. 524). Caulis brevis. Folia patentia,

nervo concolori sub apice abrupto vel producto gemmifero dorso scabro, marginibus incurvis, limbo inferne in parte obovata tenuiore lamina angusta subcrenulata marginata, cellulis hyalinis partem obovatam totam occupantibus, superioribus minutis obscuris papillis inconspicuis; perichætialia minora. Theca in pedunculo brevi, oblonga, operculo breviter subulato; calyptra thecam totam includens, plicis superne scabris.

Hab. Fl. Amazon (Pará, Caripi) et ad fl. Aripecuru; fl. Negro et Casiquiari (San Carlos &c.), *Spruce,* n. 20.

Caulis 3–4-linearis. Folia 2-linearia, viridia, flavescentia fuscaque. Pedunculus lineam longus. Calyptra fere 1½-linearis.

6. C. GUILDINGII (*Hook. et Grev. in Brewst. Edinb. Journ.* iii. 223). Laxe cæspitosum; caulis elongatus, ramosus. Folia a basi erecta patentia, nervo crasso concolori excurrente, marginibus limbo incrassato concolori parum pellucidiore ad basin partis subulatæ descendente circumdata, cellulis hyalinis partem folii oblongam totam fere occupantibus, superioribus minutis obscuris inter se distinctis; perichætialia longiora, erectiora, inferne latiora, convoluta, apicibus ad calyptræ apicem attingentibus. Theca in pedunculo æquilongo, oblonga, operculo conico acuminato; calyptra thecam totam arcte involvens.

Hab. Ins. Sancti Vincentis, *Guilding.*

Caulis uncialis. Folia fere 3-linearia, viridia, fuscescentia, anguste rigida.

7. C. CRUEGERI (*C. Müll. Syn.* i. 527). Dioicum; laxe cæspitosum, elatiusculum, erectum, robustum, parce divisum, sordide viride. Folia caulina dense imbricata, tortuosa, squarrosa, basi erecta, inferne angusta, cellulis amplis pellucidis, margine lato flavido et incrassato limbata, subito reflexa, apice nervo crasso rigido percursa, margine incrassato limbata, canaliculata, minutissime flavide areolata; perichætialia erecta, latiora, longe vaginantia, cellulis elongatis angustis teneris flexuosis reticulata. Thecæ sæpe geminatæ, brevipedunculatæ, erectæ, ampliuscule ovales, lævissimæ, nitidæ, gymnostomæ, exannulatæ, operculis conico-subulatis rectis; calyptra nitida, lævis, dein plicata, apice scabra.

Hab. Ins. Trinidad, in monte Tochuche, *Crüger.*

Archegonia pauca, paraphysibus longissimis numerosis tenuissimis acutis longe articulatis mixtis. Species pulcherrima.—*C. Müll. l. c.*

8. C. PLATYLOMA (*Mitt.*). Caulis brevis. Folia in comam congesta, erecto-patentia, basi tenui pallida, cellulis elongatis subconflatis areolata, marginata, cellulis hyalinis quadratis oblongisque spatium parvum occupantibus areolata, canaliculata, margine incurva, limbo obscure supra medium folii obsoleto, nervo percurrente dorso scabro, cellulis rotundis obscuris. Pedunculus folia perichætialia vix excedens. Theca cylindracea, operculo conico acuminato; calyptra infra basin thecæ descendens, plicata, plicis apicem versus serrulatis.

Hab. Guiana Anglica, *Appun,* n. 819.

Caulis 4 lineas altus. Folia 2-linearia, obscure viridia.

Sect. 2. *Himantophyllum*, Mitt. in Journ. Linn. Soc. 1868.

Eucalymperes, *C. Müll. Syn.* i. 526.

9. C. LONCHOPHYLLUM (*Schwægr.* t. 98). Caulis brevis, ramosus. Folia patentia, incurvata, basi ovalia, cellulis hyalinis spatium interius totum occupantibus, marginibus limbo tenero cellulis elongatis extusque lamina angustissime circumdatis, superne minutissime serrulata, inde subito contracta, longissime anguste loriformia, canaliculata, apicibus obtusiuscule acutis, nervo concolori percursa, marginibus incrassatis concoloribus serrulatis, cellulis superioribus parvis rotundis subobscuris. Theca in pedunculo brevi rubro, oblonga, operculo subulato; calyptra thecam totam includens, apice acuminato scabra.

Hab. Fl. Amazonum, secus ejus ostia locis Caripi et Tanaú, ad fl. Negro prope Manaos, et ad rivulum Cauapuna Venezuelæ, *Spruce*, n. 17. Ins. Trinidad, *Black*, *Crüger*; Guiana, *Richard*.

Caulis 1–2-linearis. Folia 4–5-linearia, pallide viridia, lutescentia, sicca incurvata subcirrhata. Pedunculus 4-linearis.

Tribus V. TORTULEÆ.

32. WEISIA.

Musci humiles, caulibus fastigiatim ramosis. Folia angusta vel lata. Thecæ in pedunculo breviusculo, parvæ. *Habitatio* ad terram et rupes.

Sect. 1. SYSTEGIUM. ***Theca operculo persistente clausa. Folia linearia, sicca crispata.***

Folia lanceolata, obtusiuscula, nervo apice evanido. . 1. *W. Hampei.*
Folia longe anguste linearia, apice sensim angustata, acuta, nervo in mucronem brevem excurrente . . . . 2. *W. subacaulis.*

Sect. 2. GYMNOSTOMUM. ***Theca gymnostoma. Folia linearia, margine incurva.***

Theca ovalis.
  Theca rufa. . . . . 3. *W. micacea.*
  Theca pellucida . . . . 4. *W. Breutelii.*
  Theca sordide fusca . . . . 5. *W. Kunzeana.*
  Theca abbreviata . . . . 6. *W. Jamesoni.*
Theca cylindracea. . . . . 7. *W. senocarpa.*
Fructificatio adhuc ignota . . . . 8. *W. umbrosa.*

Sect. 3. EUWEISIA. ***Peristomium e dentibus irregularibus formatum. Folia linearia, margine incurva.***

Species unica . . . . 9. *W. controversa.*

Sect. 4. Hymenostylium. *Theca gymnostoma. Folia margine recurva.*

Folia lineari-lanceolata, acuta .... 10. *W. stillicidiorum.*

Folia longiuscula, lineari-lanceolata, acuta......... 11. *W. longirostris.*

Folia linearia, obtusiuscule acuta .... 12. *W. calcarea.*

Sect. 5. Scopelophila. *Theca gymnostoma. Folia spathulata, obtusa, perichætialia propria nulla.*

Folia elongate spathulata, obtusa .... 13. *W. agoyanensis.*

Folia spathulato-ligulata, breviter acuminata...... 14. *W. cataractæ.*

Sect. 6. Hyophila. *Theca gymnostoma. Folia sæpe late involuta.*

Folia a basi brevi contracta, oblonga, obovata, subspathulata, obtuse acuta. 15. *W. tortula.*

Folia concava, haud obtusiuscula, vel nervo crasso ferrugineo distincte in apiculum producto .... 16. *W. involutifolia.*

Folia valde involuta, a basi angustiore brevi latiuscule subspathulato-oblonga, obtusa, sed nervo ferrugineo in apiculum brevissimum producto mucronata .... 17. *W. Œrstediana.*

Folia late convoluto-oblonga, obtusa breviterque acuminata, superne remote dentata .... 18. *W. contermina.*

Folia elongato-elliptico-ligulata, obtusa .... 19. *W. barbula.*

Folia a basi angusta oblongo-lanceolata, apice obtuse acuminata, denticulato-subserrulata .... 20. *W. Leprieurii.*

Folia late ovato-oblonga, brevia, apice dentata .... 21. *W. Pœppigiana.*

Folia lanceolata, obtusa, integerrima. Theca cylindrico-oblonga. 22. *W. lurida.*

Folia lanceolata, obtusa, integerrima. Theca sub ore contracta. 23. *W. Lindigii.*

Folia linearia, elongata, apice acuta. Theca pallida, ore subnigro. 24. *W. melanostoma.*

Folia linearia, obtusa, minute mucronata. Theca undique fusca. 25. *W. incurva.*

Folia spathulata, obtusa, nervo in mucronem brevissimum excurrente. 26. *W. arborea.*

Folia ovato-oblonga, obtusa.................... 27. *W. blanda.*

Folia late spathulata, obtusissima vel retusa ...... 28. *W. minutissima.*

Sect. 7. Tortularia. *Theca peristomio e dentibus* 8 *vel* 16 *instructa. Folia spathulata.*

Peristomium 16-dentatum.

Folia lineari-ligulata, apice obtusa, concava, cucullata. 29. *W. navicularis.*

Folia ligulata, subspathulata, obtusiuscula, planiuscula. 30. *W. obtusifolia.*

Folia anguste lanceolata, obtusiuscule acuminata. 31. *W. Wagneri.*

Folia brevia, anguste ovato-lanceolata, obtusa ..32. *W. subcæspitosa.*

Folia lanceolata, obtusa vel apiculata, cucullato-concava, apice muriculato-dentata ....33. *W. cucullata.*

Peristomium 8-dentatum. Folia late spathulata, caviuscula, apice recurva, obtusa ....34. *W. octoblepharis.*

Sect. 8. TAPEINODON. *Peristomium depressum, dentibus parvis infra os thecæ insertis. Folia lata, obtusa.*

Species unica ....35. *W. splachnifolia.*

Sect. 1. *Systegium*, Schimp.

Musci pusilli. Folia angusta. Thecæ breviter pedunculatæ. *Habitatio* ad terram argillosam humidam.

1. W. HAMPEI (*Mitt.*). Monoica, subacaulis, minima, aggregato-ramosa, intense viridis, cirrhato-crispula. Folia conferta, patula, carinata, integerrima; nervo solido, cellulis angulato-rotundatis subhyalinis, versus apicem folii flavescentibus. Thecæ in ramis segregatis solitariæ, brevisetæ, subrotundæ, apiculatæ; calyptra cucullata, apice attenuata, fusca.

Systegium Lindigii, *Hampe in Ann. Sc. Nat.* ser. 5. iii. 337.

Hab. Bogotá, Guadelupe (3100 metr.), inter *Mielichhoferias*, Augusto 1863 legit *Lindig.*

"Ab omnibus notis exiguitate differt, oculis nudis vix discernendum."—*Hampe, l. c.*

2. W. SUBACAULIS (*Mitt.*). Caulis simplex vel in ramos plures brevissimos divisus. Folia comalia patenti-incurva, sicca crispata, canaliculata, cellulis basilaribus oblongis, superioribus rotundatis obscuris papilloso-prominulis. Theca in pedunculo pallido ea breviore, globoso-ovata, erecta, oblique subulirostrata.

Hab. Andes Bolivienses, prov. Larecaja, in viciniis Sorata; Cotana Lacunæ margine, in uliginosis reg. temp. (3100 ped.), *Mandon*, n. 1713. Andes Quitenses, Baños ad aggeres (6000 ped.), *Spruce*, n. 240.

W. rostellatæ Europæ simillima, nec nisi foliis basi vix latioribus distinguenda.

Sect. 2. *Gymnostomum.*

Musci parvi, humiles. Folia siccitate incurvo-crispata, margine incurva. *Habitatio* ad terram.

3. W. MICACEA (*Schlecht. Linnæa*, x. 443, Gymnostomum). Dioica. Folia patentia, inferne elliptica, sensim superne angustata, apice explanato obtusiuscule acuta, subcucullata, nervo brevissime excurrente, marginibus superioribus involutis, cellulis inferioribus elongatis oblongisque pellucidis, superioribus minutis obscuris; perichætialia basi parum latiora. Theca in pedunculo breviusculo luteo, ovalis, ore parvo inæquali rubro, operculo subulato.

Hab. Brasilia, Rio Comprido, in argillosis, *Gardner*, n. 9. Rio de Janeiro, *Beske.*

Caulis lineam altus. Folia lineam longa, viridia, sicca crispata. Pedunculus sub-3-linearis. Theca rufa, subnitida.

4. W. BREUTELII (*C. Müll. Syn.* i. 664). Monoica, fastigiate ramosa. Folia patentia, inferne ovalia, sensim lineari-angustata, apice explanato obtusiusculo subcucullata, nervo in mucronem brevem excurrente, margine superne involuta, cellulis basilaribus paucis oblongis elongatisque, superioribus parvis rotundatis obscuris; perichætialia conformia. Theca in pedunculo breviusculo pallido, ovalis, pellucida, ore rubro, operculo subulato.

Hab. St. Thomas, *Breutel.*

Caulis 1–1½ lineam altus. Folia superiora lineam longa, viridia, sicca crispata. Pedunculus 2–3-linearis.

5. W. KUNZEANA (*C. Müll. Syn.* i. 656). Dioica, pusilla, cæspitosa, rigida, sordide viridis, parce fasciculato-ramosa. Folia caulina sicca valde crispata, rigida, madefacta stricta, a basi latiore oblonga, cellulis rectangularibus pellucidis teneris multis reticulata, concava, sæpe subito fere lanceolata, interdum reflexiuscula, minutissime quadrato-areolata, tenuissime papillosa, opaca, margine involuta; perichætialia basi laxiora; omnia nervo crasso flavido in mucronem breviter excurrente carinata. Theca in pedunculo medio rubente erecta, ovalis, parva, sordide fusca, operculo subulato obliquo tenuissimo.

Gymnostomum marginatum, *Kunze, MS.*

Hab. Chili, *Pœppig.*

W. viridulæ simillima, differt theca gymnostoma.

6. W. JAMESONI (*Arn. in Trans. Wern. Soc.* v. 200, Gymnostomum). Dioica? Folia densa, patentia, lineari-spathulata, apice obtusiuscula, sed ob margines involutos quasi acuta, nervo in mucronem brevem excurrente, cellulis basilaribus parvis oblongis laxis pellucidis, superioribus minutis obscuris rotundis; perichætialia caulinis multo latiora, conformia, erecto-patentia. Theca in pedunculo brevi luteo, breviuscula, ore amplo, operculo oblique tenuisubulato.

Hab. Brasilia, Rio de Janeiro, *Arnott in Herb. Hooker.*

Caulis 3 lineas altus. Folia 1½ lineam longa, læte viridia, sicca crispata, rigidiuscula. Pedunculus 1½-linearis. Theca fusca.

7. W. SENOCARPA (*C. Müll. Syn.* ii. 633). Dioica; cæspites humiles, densiusculi, viridissimi; caulis adscendens, parce ramosus, tenellus, madore ob folia valde patula crassiusculus. Folia caulina siccitate crispata, madore stricta, parum curvata, a basi oblonga, e cellulis laxioribus elongatis pellucidis parenchymaticis reticulata, anguste lanceolato-acuminata, nervo excurrente mucronata, minute quadrate areolata, opaca, margine integerrimo distincte involuto; perichætialia longiora, basi laxius reticulata. Theca in

pedunculo elongato lævi flavido erecta, anguste cylindrica, vix obliquiuscula, pallida, late annulata, ore latiore purpureo, operculo oblique aciculari; columella parum dilatata; calyptra pallidissima, glabra, angustissima.

Hab. Costa Rica, reg. montosa (inter 5000 et 8000 ped.), *Œrsted.*

A *W. microstoma* habitu robustiore altiore longe distat. Habitu *W. tortili* magis similis, sed thecæ forma primo visu distinguitur.—*C. Müll. l.c.*

8. W. UMBROSA (*Mitt.*). Dioica? caulis dichotome ramosus. Folia a basi erectiore latiore pellucidiore patentia, siccitate incurva, crispata, anguste lineari-acuminata, canaliculata, nervo luteo in acumen pungens producto, integerrima, cellulis basilaribus oblongis pellucidis, superioribus parvis papillosis obscuris.

Hab. Andes Quitenses, Pangor ad rupes (9000 ped.), *Spruce*, n. 230 *b*. Tunguragua (8000 ped.), *Spruce*, n. 230 *c*; Guayrapata (9000 ped.), *Spruce*, n. 230 *d*. Andes Peruvianæ, Tarapoto, ad aggeres umbrosos et secus rivulos (1500–2000 ped.), *Spruce*, n. 230.

Caulis in speciminibus majoribus unciam altus. Folia 1½ lineam longa, lutea.

Sect. 3. *Euweisia*, Hedw. Fund. ii. 90 (*Weissia*).

Musci humiles, caulibus fastigiatim ramosis. Folia siccitate incurvo-crispata. Thecæ parvæ, breviuscule pedunculatæ. *Habitatio* ad terram.

9. W. CONTROVERSA (*Hedw. Fund. Musc. Frond.* iii. 12, t. 5). Monoica, humilis. Folia a basi latiore erectiore sensim angustata, lineari-subulata, patenti-incurva, apicibus acuminatis, nervo in mucronem brevissimum excurrente, marginibus in inferioribus incurvis in superioribus valde involutis canaliculata, cellulis basilaribus oblongis pallidis, superioribus rotundatis obscuris; perichætialia basi ovalia, convoluta, cæterum caulinis similia. Theca in pedunculo breviusculo luteo, ovalis, sicca indistincte plicata, operculo subulato, peristomii dentibus brevibus irregularibus interdum obsoletis.

W. Pabstiana, *C. Müll. in Bot. Zeit.* 1857, 383.

W. edentula, *Sulliv. in Proceed. Amer. Acad.* 1861.

W. pallida, *Spruce, MS.*

Hab. Ins. Cuba, *Wright*, n. 4 et 5. Andes Quitenses, in monte Guayrapata (9000 ped.), *Spruce*, n. 229. Andes Bogotenses (2800 metr.), *Lindig*. Brasilia, ins. Sanctæ Catharinæ, *Pabst*; Rio de Janeiro, *Milne*. Natividade, prov. Goyaz, *Gardner*; prov. Parana ad viam prope Corritiba (2200 ped.), *Weir*, n. 42.

Caulis 2–3-linearis. Folia lineam longa, viridia, ætate pallide fulva, sicca crispata.

Pedunculus 2–3 lineas altus. Theca ½ lineam longa.

Although *W. edentula* (Sull.) and *W. Pabstiana* have been described as dioicous, yet, in authentic specimens of both, the male flower may be observed precisely as in European examples. Hampe describes the moss from New Granada as " var. *canaliculata*, differt colore croceo, statura minore minus ramosa, foliis constanter involuto-canaliculatis, cellulis basilaribus tenuioribus."—*Hampe in Ann. Sc. Nat.* ser. 5. iii. 351.

Sect. 4. *Hymenostylium*, Brid. ii. 81.

Musci caulibus sæpe elongatis, fastigiatim ramosis. Folia angusta, siccitate appressa. *Habitatio* ad rupes udos, etiam in terra.

10. W. STILLICIDIORUM (*Mitt.*). Dioica, cæspitosa; caulis parce radiculosus. Folia dissita, patenti-recurva, lineari-lanceolata, acuta, nervo percurrente carinata, marginibus recurvis, inferne plus minus anguste reflexis, cellulis basilaribus paucis ovoideis, superioribus rotundis pellucidis minute papillosis; perichætialia caulinis similia, interna magis acuta. Theca in pedunculo gracili, ovalis, operculo subulato angusto curvato.

Gymnostomum rupestre, var., *Sulliv. in Proceed. Amer. Acad.* 1861.

Hab. Andes Quitenses, in stillicidiis calidis ad fl. Pastasa (5000 ped.), *Spruce*, n. 227; ad fl. Pastasa loco Agoyan (5000 ped.), *Spruce*, n. 228. Ins. Cuba, in declivibus umbrosis ad rivulos, *Wright*, n. 8.

Caulis 2–3 uncias altus. Folia juniora læte viridia, inferiora pallide fusca. Pedunculus 5-linearis.

Habitus *W. curvirostris* Americæ septentrionalis et Europæ, foliis autem illis *W. rupestris* similioribus basi haud dilatatis marginibus recurvis, cellulis haud obscuris.

11. W. LONGIROSTRIS (*Kunze, C. Müll. Syn.* i. 562). Dioica, glauco-viridis. Folia caulina crispula, madefacta valde patula, longiuscula, angustissime lineari-lanceolata, acuta, integerrima, basi infima e cellulis pellucidis teneris parvis irregulariter rectangulari-hexagonis, superne minutis subquadratis sordide viridibus haud chlorophyllosis mollibus firmis tenuissime papillosis areolata, parum flexuosa, nervo ante apicem evanido; perichætialia a basi multo laxius reticulata longe lineari-acuminata. Theca in pedunculo breviusculo fusco erecta, obovata, fusca, dein ovalis, brunnea, exannulata, parva, operculo longe et oblique subulato.—*C. Müll. l. c.*

Gymnostomum longirostre, *Kunze, in Pœppig, Pl. Chil. Coll.* iii. n. 230.

Hab. Chili australis, in Andibus, *Pœppig.*

A *W. xanthocarpa* Indiæ orientalis simillima certe distat.—*C. Müll. l. c.*

12. W. CALCAREA (*Nees et Hornsch. Bryol. Germ.* t. 10, Gymnostomum). Cæspitosa, gracilis. Folia patentia, linearia, obtusiuscule acuta,

canaliculata, nervo infra apicem evanido, cellulis inferioribus oblongis pellucidis, superioribus rotundatis obscuris papillosis; perichætialia dimidio inferiore erecta oblonga, superiore angustiora acutiora recurva. Theca in pedunculo gracili luteo, ovalis, pallida, pellucida, ore rubro.

Hab. Andes Chilenses, Antuco, *Pœppig*, n. 47.

Caulis 3-linearis. Folia ¼ lineam longa, viridia, fuscescentia. Pedunculus lineas 2 longus.

Sect. 5. *Scopelophila.*

Musci humiles, cæspitosi, caulibus parum divisis. Folia æqualia, lata, spathulata, cellulis densiusculis lævibus. Thecæ in pedunculo gracillimo, oblongæ, hucusque gymnostomæ tantum visæ. *Habitatio* in rupium fissuris.

13. W. AGOYANENSIS (*Mitt.*). **Folia patentia, planiuscula, nervo sub apice evanido, marginibus inferne reflexis integerrimis, cellulis inferioribus oblongis pellucidis, superioribus rotundatis, ad margines seriebus circiter sex pallidioribus limbum latum formantibus; perichætialia conformia. Theca in pedunculo gracili pallido luteo-viridi, ovalis, erecta, operculo oblique subulato.**

Hab. Andes Quitenses, in scopulis humidis supra cataractam Agoyan fluv. Pastasæ (5000 ped.), *Spruce*, n. 45 *a* et *b*.

Caulis ½–1½-uncialis, inferne foliis semidestructis fuscis obtecta. Folia luteo-viridia, sicca subcrispata, lævia. Theca pallida, lutea, leptoderma.

14. W. CATARACTÆ (*Mitt.*). **Folia patentia, integerrima, nervo crassiusculo sub summo apice evanido carinata, marginibus flexuosis, cellulis superioribus minutis rotundatis, ad margines distinctioribus, basi infima paucis oblongis pellucidis; perichætialia similia. Theca in pedunculo gracili luteo, ovalis, pallide lutea, leptoderma, operculo oblique subulato.**

Hab. Andes Quitenses, ad rupes humidas secus cataractam Agoyan fluvii Pastasæ (5000 ped.), *Spruce*, n. 45 *c*.

Caulis uncialis. Folia inferiora fusca, superiora pallida.

The other species referable to this group are the *Encalypta ligulata*, Spruce, Musc. Pyren. n. 331, and a few others from India and Java; all agree in their rather firm smooth foliage and slender pale fruit-stalk.

Sect. 6. *Hyophila*, Brid. i. 760.

Musci pusilli, humiles. Folia lata, involuta vel ligulata. *Habitatio* in arboribus, etiam ad terram humidam.

15. W. TORTULA (*Schwægr.* t. 175, Gymnostomum). **Caulis brevissimus. Folia patentia, nervo brevissime excurrente, marginibus apicem versus subcrenulatis integerrimisve, cellulis basilaribus ad nervum paucis**

oblongis, superioribus omnibus parvis rotundis obscuris; perichætialia breviora, erecta, late ovata. Theca in pedunculo luteo, cylindracea, erecta, ore rubro, operculo subulato.

Hab. Ins. Cuba, *Wright*, n. 2; Jamaica, *Wilds*, in ins. Caribbæis, *Guilding*. In Nova Granata ad fl. Magdalena prope Pescaria (600 ped.), *Weir*, n. 327. Fl. Amazon, Pará ad saxa in hortis, *Spruce*, n. 160; fl. Negro, ad São Gabriel, *Spruce*, n. 157; fl. Huallaga in saxis inundatis (1200 ped.), *Spruce*, n. 158, et caule altiore, *Spruce*, n. 159. Andes Peruvianæ, ad rivulum Shillicaio (2000 ped.), *Spruce*, n. 161; Tarapoto (2000 ped.), *Spruce*, n. 162. Andes Quitenses ad fl. Pastasa super Agoyan (5000 ped.), *Spruce*, n. 156. Brasilia, *Gardner*.

Caulis 2-linearis. Folia lineam longa, viridia, inferiora fuscescentia, siccitate incurva, marginibus involutis. Pedunculus 3–4-linearis. Theca lineam longa.

16. W. INVOLUTIFOLIA (*C. Müll. Syn.* i. 560, Pottia). Habitus *W. involutæ*. Folia breviora, madefacta concava quidem sed haud involuta, obtusiuscula; perichætialia intima magis acuminata; theca minus cylindrica sed brevior cylindrico-elliptica, haud curvata.—*C. Müll. l. c.*

Hyophila caripensis, *Hampe in Linnæa*, xx. 68.

Hab. Columbia prope Caripi, *Moritz*, n. 127.

17. W. ŒRSTEDIANA (*C. Müll. Syn.* ii. 622, Pottia). Dioica; caulis subsimplex, humilis. Folia caulina inferne ferruginea, superne viridissima, madore parum involuta, basi laxe reticulata pellucida, integerrima, cellulis minutiusculis amœne viridibus læviusculis parum opacis areolata, tenera; perichætialium unicum minutum obtusissimum, nervo obsoleto evanido. Theca in pedunculo breviusculo flavo erecta, minuta, cylindrica, angustissima, brunnea, orificio minutissimo, operculo longe aciculari obliquiusculo, annulo subulato, peristomio nullo.—*C. Müll. l. c.*

Hab. America centralis; Realejo in Nicaragua, *Œrsted*.

18. W. CONTERMINA (*C. Müll. Syn.* ii. 623, Pottia). Dioica; caulescens, subsimplex, sordide viridis. Folia patulo-cirrhata, sed nunquam circinato-tortilia, e basi brevi laxius reticulata firmiuscula fuscidula, superne minute areolata subopaca, viridissima, haud undulata, nervo crasso in acumen subexcurrente ferrugineo; perichætialia exteriora caulinis similia, intimum unicum minutum obtusissimum integerrimum laxius reticulatum obsoletinerve. Theca in pedunculo longiusculo inferne rubro erecta, strictissima, cylindrica, basi toto ambitu subapophysata, latiuscule annulata, operculo subulato obliquo longiusculo; peristomium nullum.—*C. Müll. l. c.*

Hab. America centralis; Costa Rica, Aguacata (1500 ped.), *Œrsted*.

19. W. BARBULA (*Schwægr.* t. 175, Gymnostomum). Subacaulis Folia superiora patula, nervo infra apicem evanido planiuscula, cellulis basilaribus ad latera oblongis hyalinis, interioribus superioribusque rotun-

datis obscuris papillatis; perichætialia breviora. Theca in pedunculo brevi, cylindracea, operculo subulato.

Hab. Ins. Cuba, *Wright*, n. 3.

Caulis ¼ lineam altus. Folia ½–¾ lineam longa, viridia, sicca incurva, marginibus involutis. Pedunculus 2-linearis. Theca ½ lineam longa.

20. W. LEPRIEURII (*Mont. Syllog.* 50, Hyophila). Caules subhumiles, basi decumbentes repentes inde subramosi. Folia solidinervia, margine involuta, siccitate uncinato-incurva. Capsula erecta, elongata, cylindrica, annulata, gymnostoma, ore coarctato, operculo capsula triplo breviore, longe conico-acuminato. Folia perichætialia vaginulam longiusculam amplectentia, tenuissime crenulata.

Hab. Guiana, ad corticem arborum, *Leprieur.*

21. W. PŒPPIGIANA (*C. Müll. Syn.* i. 562, Pottia). Habitus *W. cylindricæ*, sed multo robustior, dense cæspitosa. Folia arcte imbricata, tortilia, basi breviter pellucida, madefacta magis involuta, undulata, nervo minus crasso in apiculum distincte producto; perichætialia exteriora distincte acuminata excurrentinervia, intimum unicum obtusissimum apice crenulatum. Theca *W. cylindricæ.—C. Müll. l. c.*

Hab. Chili australis, *Pœppig.*

22. W. LURIDA (*Hornsch. in Mart. Fl. Bras. Musc.* 18, Barbula). Erecta, uncialis, simplex, inferne radiculosa, superne foliosa, gracilis. Folia erecto-patentia, sicca torquescentia, planiuscula, lurido-viridia, nervo crasso carinato rufescente infra apicem evanido, retis areolis subquadratis minutis; perichætialia exteriora erecta basi vaginata, interiora minuta lanceolato-acuminata. Theca in pedunculo terminali v. innovationibus brevibus laterali purpureo flexuoso erecta, parum curvata, lævis, brunnea, operculo conico brevissimo concolori.—*C. Müll. Syn.* i. 608.

Hab. Brasilia, in prov. Minas Geraes, *Martius.*

23. W. LINDIGII (*Hampe in Ann. Sc. Nat.* ser. 5. iii. 343, Hyophila). Dense cæspitosa, compacta, intense rufescens; caulis humilis, 2–3 lin. longus, erectus, inferne laxe, superne stellato-foliatus. Folia canaliculata, humida, patula, sicca involuto-uncinata, crispula, nervo crasso rufescente ad apicem producto, cellulis basilaribus subquadratis laxioribus hyalinis, interstitiis tenuissimis, versus apicem folii minoribus, demum subrotundis, fere opacis. Seta gracilis, fere uncialis. Theca anguste ovata, hymenostoma, operculo brevi conico subulato obliquo, calyptra angusta longissima operculum duplo superante.

Hab. Nova Granata, Bogotá, Guadelupe (3200 metr.), in præruptis Barrancas dictis, *Lindig.*

Ab *H. caripensi* proxima differt foliis angustioribus et theca breviore hymenostoma.—*Hampe, l. c.*

24. W. MELANOSTOMA (*Mitt.*). Dioica, cæspitosa, humilis; caulis inter folia radiculosus. Folia patentia, basi vix latiora canaliculata planave, sicca contorta, nervo concolori excurrente carinata, integerrima, cellulis basilaribus in medio folio ad nervum tenerrimis pellucidis, inde sensim in minutas rotundatas minutissime papillosas transeuntibus; perichætialia conformia. Pedunculus gracillimus, elongatus, ruber. Theca cylindracea, lutescens, ore intensius colorato subnigro, operculo angustissime subulato; calyptra angusta, straminea, ad basin usque thecæ descendens.

Hab. Fl. Negro et Uaupés, frequens in apricis arenosis sylvarum humiliorum ad São Gabriel, S. Carlos, Panuré &c., etiam in Orchidearum radicibus in monte granitico Cocui (1500 ped.), *Spruce*, n. 164, 165, 166.

Caules in cæspitem congesti decumbentesve, breves, interdum subunciales. Folia 1½ lineam longa, dense inserta. Pedunculus uncialis longiorque. Theca lineam et ultra longa.

25. W. INCURVA (*Mitt.*). Humilis. Folia patentia, linearia, subspathulata, canaliculata, apice obtusa, nervo in mucronem minutum excurrente, integerrima, cellulis superioribus opacis basilaribus pellucidis elongatis. Theca in pedunculo elongato, ovato-oblongo-cylindracea, rufo-fusca, ore parvo, operculo longe subulato; calyptra ad medium thecæ descendens.

Hab. Guatemala, Volcan de Fuego, *Godman et Salvin.*

Caulis 2 lineas altus. Folia lineam longa, viridia, sicca incurva, contorta. Pedunculus 5 lineas longus. Theca linearis.

26. W. ARBOREA (*Mitt.*). Dioica; cæspitosa; caulis brevis. Folia a basi brevi subquadrata erectiore patula, planiuscula, integerrima, nervo concolori, cellulis basilaribus oblongis pellucidis, superioribus minutis obscuris papillosis; perichætialia interna angustiora, obtusa. Theca in pedunculo elongato gracillimo rufo, ovali-cylindracea.

Hab. Brasilia, prov. Goyaz, ad Missiones Douro, in arbores, *Gardner*, n. 5.

Caulis 3-linearis. Folia lineam longa, lutea. Pedunculus tenuissimus ½-uncialis.

Species *W. lineari* magnitudine similis, foliis autem latioribus obtusis.

27. W. BLANDA (*Hook. et Wils. in Hook. Lond. Journ.* iii. 151, Gymnostomum). Caulis brevissimus. Folia patentia, majora, marginibus incurvis concava, nervo percursa, cellulis basilaribus paucis, majoribus quadratis pellucidis, reliquis rotundatis obscuris; perichætialia conformia. Theca in pedunculo brevi luteo, ovalis, erecta, operculo subulato obliquo, annulo revoluto.

Hab. Brasilia, prope urbem Oëiras, ad rupes arenaceas, *Gardner*, n. 6.

Caulis ½ lineam altus. Folia ½ lineam longa, viridia, sicca involuta. Pedunculus 1½-linearis.

28. W. MINUTISSIMA (*Mitt.*). Pusilla, subacaulis. Folia densa, patentia, inferiora late spathulata, superiora longiora, minus spathulato-dilatata, ligulato-spathulata, integerrima, nervo pallidiore percursa, cellulis basilaribus

oblongis pellucidis, in foliis superioribus tertiam, in inferioribus quartam partem folii longitudinis occupantibus, inde subito in minutas rotundatas viridulas obscuras transeuntibus. Theca in pedunculo brevi luteo, ovali-cylindracea, operculo subulato dimidio breviore.

Hab. Brasilia, in Sierra de Sancta Brida ad arbores emortuas, *Helicophyllo torquato* Brid. consociata, *Gardner.*

Species minutie *W. blandæ* et *W. octoblephari* similis.

Sect 7. *Tortularia.*

Musci pusilli. Folia ligulata. *Habitatio* ad terram et in arboribus.

29. W. NAVICULARIS (*Mitt.*). Dioica?, cæspitosa, caulis brevis. Folia patentia, canaliculata, nervo concolori sub summo apice abrupte desinente, marginibus incurvis integerrimis; comalia basi parum latiora; perichætialia apice acuta, minus concava. Theca in pedunculo elongato gracili rubro, cylindracea, operculo elongato, peristomii dentibus contortis ad basin usque liberis, longitudine thecæ dimidium æquantibus.

Barbula linearis, *Sulliv. in Proc. Amer. Acad.* 1861, 277.

Hab. Ins. Cuba, *Wright*, n. 29.

Caulis 1–3 lineas altus. Folia lineam longa. Pedunculus 6–8-linearis. Habitus *Tortulæ linearis* Sw., foliis autem latioribus canaliculatis apicibus cucullatis.

30. W. OBTUSIFOLIA (*C. Müll. Syn.* i. 559). Humilis. Folia a basi erectiore patentia, nervo percursa, cellulis basilaribus paucis oblongis pellucidis, superioribus rotundatis parvis obscuris; perichætialia longiora, in dimidio eorum longitudinis inferiore pellucida, in superiore spathulata, patentia, obscura. Theca in pedunculo brevi flavo, cylindracea, erecta, operculo subulato; peristomii dentes brevissimi, rudimentarii.

Hab. Brasilia, prov. Ceará, Sierra de Araripé, ad Brejo Grande, *Gardner*, n. 5.

Caulis 2 lineas altus. Folia $\frac{3}{4}$ lineam longa, viridia, fuscescentia, sicca incurva, crispata. Pedunculus 2 lineas longus.

31. W. WAGNERI (*C. Müll. Syn.* ii. 623, Pottia). Erecta, laxe cæspitosa, parce dichotoma, rigidissima. Folia tortilia, nervo crassiusculo viridi in mucronem reflexiusculum brevem excedente, vix convoluta, basi infima pellucide quadrate tenuiter superne sensim minute areolata, viridissima; perichætialia conformia, longiora, basi longius laxius et pellucidius reticulata. Theca in pedunculo flavido longiusculo strictiusculo, cylindraceo-elliptica, angusta, angustissime annulata, peristomata, operculo longe recte subulata, dentibus densissime approximatis angustis, irregulariter linea longitudinali exaratis, obsolete articulatis, pallidis carnosulis sublævibus.—*C. Müll. l. c.*

Hab. Columbia, Cumbre de Caracas, *Wagner.*

32. W. SUBCÆSPITOSA (*Hampe in Linnæa*, xxxii. 127, Anacalypta). Monoica, laxe cæspitosa, glaucescens, humida croceo-viridis; caulis humilis, superne diviso-ramosus, erectus, subfastigiatus. Folia involuto-carinata, undique patentia, sicca involuta crispula, cellulis basilaribus oblongo-quadratis diaphanis, superioribus condensatis rotundatis opacis; folia perichætialia convoluta majora et tenuiora, magis perspicua, omnia integerrima, nervo æquali mediocri ad apicem producto. Seta erecta, flavescens, cæspites quadruplo superans, apice parum torta. Theca oblongo-cylindrica, flavescens, tandem fuscescens, vetusta elliptico-cylindrica, operculo brevi conico-rostrato obliquo, dentibus peristomii brevibus lanceolato-subulatis, apice bifidis, parce nodulosis flavescentibus, annulo maximo circumdatis; calyptra angusta, glabra.

Hab. Andes Novo-Granatenses; Bogotá, Los Laches ad latera convallium Barrancas dictarum (2800 metr.), *Lindig.*

Ex habitu *Anacalyptæ cæspitosæ* Bruch (Europæ); differt foliis angustioribus obtusis, humidis croceo-viridibus, theca oblongo-cylindrica, dentibusque peristomii angustioribus.—*Hampe, l. c.*

33. W. CUCULLATA (*Hampe in Ann. Sc. Nat.* ser. 5. iii. 335). Cæspitosa, humilis, rufescenti-viridis. Caulis basi fusco-fibrillosus, erectus, subsimplex, fastigiatus, dense foliatus. Folia undique imbricata, carinata, sicca involuto-crispata, humida patenti-erecta, apice incurva, inferiora breviora et obtusiora, superiora paulo longiora, nervo lutescente valido percursa nec prominente, cellulis basilaribus pentagono-elongatis hyalinis, supremis angulato-rotundatis minoribus subopacis. Seta erecta, caule longior, semiuncialis, lutescens. Theca erecta, anguste ovata, annulata, brunnescens, peristomii dentibus e basi latiore lanceolato-subulatis, brevibus, parce trabeculatis, indivisis, pallidis.—*Hampe, l. c.*

Hab. Andes Bogotenses, Guadelupe (3200 metr.), inter *Mielichhoferias*, *Lindig.*

Ex habitu *Trichostomi rubelli* minoris formæ.—*Hampe, l. c.*

34. W. OCTOBLEPHARIS (*Spruce*). Cæspitosa; caulis brevis, simplex. Folia inferiora parva, superiora comalia duplo majora, patula, margine flexuosa, incurva, integerrima, nervo angusto infra apicem evanescente, cellulis superioribus parvis quadrato-rotundis, granulis chlorophylli obscuris, inferioribus in basi angustata oblongis rectangulis majoribus pellucidis; comalia interna seu perichætialia duo minora angustiora. Theca in pedunculo gracili pallide pellucide viridi nitido folia comalia parum superante, ovali-cylindracea operculoque conico subulato-acuminato rubro, vernicosa; peristomii dentibus luteis 8, ad medium fissis, lævibus; calyptra pallida, paululum infra basin operculi descendens. Planta mascula foliis brevibus, flore gemmaceo, foliis orbicularibus obtusis apiculatisve antheridia plura flava includentibus.

Pottia (Anacalypta) octoblepharum, *Spruce, MS.*

Hab. Fl. Amazonum; Santarem ad terram arenosam rubram in locis umbrosis, *Spruce,* n. 163.

Caulis linea humilior; plantæ in cæspites latos aggregatæ. Folia comalia ½ lineam longa, glauco-luteo-viridia, siccitate margine involuta. Pedunculus fere lineam longus. Theca ½-linearis.

Species perbella, pusilla, nitore thecarum *W. vernicosæ* Indiæ orientalis similis, sed *W. brevicauli* Javæ et *W. blandæ* affinior.

Sect. 8. *Tapeinodon.*

Musci humiles, gracillimi. Folia lata, brevia, obtusa, laxe areolata. Thecæ longiuscule pedunculatæ. *Habitatio* ad terram humidam.

35. W. SPLACHNIFOLIA (*Hook. Musc. Exot.* t. 76, Didymodon). Dioica; caulis humilis, cæspitosus. Folia laxa, patentia, late ovalia, obtusa, rarius subacuta, planiuscula, nervo infra apicem evanido, marginibus inferioribus recurvis reflexisve, cellulis oblongis prosenchymaticis, marginalibus superioribus rotundatis, minoribus pellucidis vel utriculo contracto subobscuris; perichætialia angustiora, linearia, obtusa subacutave. Theca in pedunculo breviusculo, cylindracea, erecta, ore incrassato rubro, operculo breviter conico; peristomii dentibus 16 teneris rubris, per paria subcohærentibus, siccis divaricatis, infra thecæ os insidentibus; calyptra angusta, basi cellulis sinistrorsum spiraliter vertentibus.

Dissodon rotundifolius, *C. Müll. Syn.* i. 140.

Hab. Ins. Antillis, *Richard*; Sancti Vincentis, *Guilding*; Jamaica, *Wilson*; Cuba, *Wright*, n. 54. Andes Peruvianæ, in saxis rivulorum, ad fl. Huallaga prope Tarapoto, in terra gypsacea riv. Aguashiyacu (1300–2000 ped.), *Spruce*, n. 209 *b, c.*

Species *W. flaccidæ* Hook., Indiæ orientalis, affinis.

33. PHASCUM, Linn.; Hampe in Linnæa, 1832.

Musci minuti, caulibus brevibus. Folia pauca, superioribus longe majoribus latis. Thecæ immersæ vel exsertæ. *Habitatio* ad terram humidam.

P. ACAULON (*Dill.*; *Linn. Sp. Pl.*). Paroicum. Folia inferiora patentia minora ovalia oblongave, superiora erecta longiora oblonga elliptico-oblongave, convoluta, omnia nervis excurrentibus mucronatis, marginibus recurvis, cellulis inferioribus hyalinis oblongis, superioribus rotundo-hexagonis chlorophylloso-obscuris, omnium limitibus angustissimis. Theca in pedunculo brevissimo, globosa, apiculata, inter folia omnino occlusa; calyptra parva, fusca, latere fissa.

P. cuspidatum, *Schreb. de Phasco,* t. 1.

Hab. Andes Quitenses, *Spruce.*

Caulis lineam altus, interdum in cæspitibus densioribus altior. Folia longiora 1$\frac{1}{2}$-linearia. Theca diametro circiter $\frac{1}{3}$ lineam metiens. Pedunculus theca brevior, rarius longior vel curvatus.

This species is so closely connected by European forms with *Desmatodon* (section of *Tortula*), that, excepting the persistence of the operculum, it scarcely differs from that group.

34. TORTULA, Hedw. Fund. ii. 92.

Musci humiles vel elati, graciles vel robusti, caulibus simplicibus vel furcatis. Folia in speciebus minoribus acuminata, in majoribus obtusa, pilifera. Thecæ cylindraceæ, angustæ. *Habitatio* ad terram, etiam in saxis nec non in arboribus.

I. BARBULÆ. *Folia ut plurimum angusta, nervo rarius in pilum excurrente, cellulis obscuris areolata. Peristomium basi breviter coalitum.*

Sect. 1. TRICHOSTOMUM. *Folia viridia, flavescentia. Peristomii dentes sæpe abbreviati, recti v. vix torti.*

Flores dioici.

Folia inferne subovata, sensim longe subulata, apice subcucullata. 1. *T. chilensis.*

Folia a basi brevi multo latiore subulato-angustata, apice anguste subcucullata .... 2. *T. jamaicensis.*

Folia a basi subovata sensim longe subulato-angustata, apicibus obtusiusculis incurvis .... 3. *T. rivalis.*

Folia a basi oblonga amplexante lineari-acuminata. 4. *T. andina.*

Folia a basi subquadrata, superne dilatata, sensim subulato-angustata, apice latiuscule acuta .... 5. *T. contortifolia.*

Folia loriformi-linearia, apice acuminata .... 6. *T. brachydontia.*

Folia a basi brevi parum latiore longe linearia, apice acuminata. 7. *T. tenuirostris.*

Folia anguste linearia, nervo pallidiore in apiculum producto. 8. *T. Schlimii.*

Folia a basi latiore brevi-ovata longe lineari-subulata, sensim acuminata. 9. *T. canaliculata.*

Folia anguste linearia, sensim acuminata........ 10. *T. australasiæ.*

Folia lanceolata, margine revoluta .... 11. *T. decolorans.*

Folia a basi brevi parum latiore longe loriformia, linearia, apice acuminata .... 12. *T. linearis.*

Flores monoici.

Folia lineari-ligulata, apice acuta .... 13. *T. cæspitosa.*

Sect. 2. HELICOPOGON. *Folia viridia v. flavo-viridia. Peristomii dentes sæpius elongati, contorti.*

Nervus in mucronem brevem excurrens.

Folia lanceolata, obtusa, plus minus lineari-elongata. 14. *T. Cruegeri.*

Folia a basi latiore subtruncata sensim angustata, elongata, apice obtusiuscule acuta .... 15. *T. obscura.*

Nervus in pilum diaphanem productus.

Folia inferne latiora ovata, superne ligulata, obtusa retusave, nervo in pilum lævem excurrente. .... 16. *T. flagellaris.*

Folia oblonga, obtusa, nervo flavo, infra folii apicem parce denticulato, in pilum apice hyalinum sublævem excurrente. . 17. *T. brachymenia.*

Sect. 3. PACHYNOMA. *Folia glauco-viridia, fuscescentia, margine revoluta. Peristomii dentes elongati, contorti.*

Folia elongate lanceolata, apice obtusa retusave .... 18. *T. replicata.*

Folia lanceolata, obtusa .... 19. *T. spiralis.*

Folia anguste ovato-lanceolata, obtusa, apice cucullato-contracta. 20. *T. glaucescens.*

Folia ovato-lanceolata (apice explanata), obtusiuscula. 21. *T. appressa.*

Folia lanceolata, sensim acuminata .... 22. *T. pruinosa.*

Folia lanceolata, elongata, apice obtusa, cucullato-incurva; perichætialia exserta .... 23. *T. leucocalyx.*

Folia brevia, ovato-lanceolata, obtusa .... 24. *T. apiculata.*

Folia lanceolato-ligulata, obtusa .... 25. *T. inæqualifolia.*

Folia oblongo-ovalia, apice obtusa .... 26. *T. excavata.*

Folia ovato-lanceolata lanceolatave, acuta .... 27. *T. mendozensis.*

Folia ovato-lanceolata .... 28. *T. fuscinervia.*

Sect. 4. PLAUBELIA. *Folia viridia, flavescentia, apice excavata. Peristomium breve.*

Folia lineari-oblonga, obtusiuscula .... 29. *T. Berteroana.*

Folia a basi latiore anguste linearia, apice obtusa .. 30. *T. occidentalis.*

Folia ovalia, naviculari-concava, apice profunde cucullata. 31. *T. cucullifera.*

Folia late ovata, obtusa; perichætialia etiam obtusa. . 32. *T. amblyophylla.*

Folia a basi erectiore sensim superne dilatata, subvaginantia, subito acuminata, breviuscula .... 33. *T. montana.*

Folia a basi paululum latiore ligulata, obtusa ...... 34. *T. ligularis.*

Folia late ovata, apice obtusa, brevia, perichætialia angustata. 35. *T. patagonica.*

Sect. 5. LEPTOPOGON. *Folia viridia v. flavida, perichætialia valde diversa. Peristomium elongatum, tortum.*

Folia lanceolata, obtusa .... 36. *T. calyculosa.*

Folia a basi concava late ovato-lanceolata, obtusa .. 37. *T. longirostris.*

Folia a basi latiore oblongo-ligulata .... 38. *T. calycina.*

Sect. 6. ALOINA. *Folia margine late inflexa involuto-concava, obtusa, nervis latis intus granulosis.*

Species unica .... 39. *T. calceolifolia.*

Sect. 7. BARBULA. *Folia juniora viridia, mox fuscescentia rubiginosa, lanceolata lineari-lanceolatave, margine recurva.*

Folia acuta, integerrima.

Folia jam a basi patentia.

Folia ovato-lanceolata, nervo infra apicem evanido. 40. *T. rectifolia.*

Folia a basi ovata subito attenuato-lanceolata. 41. *T. novogranatensis.*

Folia subulata, sensim angustata, nervo infra apicem evanido. 42. *T. campylocarpa.*

Folia late suborbiculari-ovata .... 43. *T. appressifolia.*

Folia a basi sensim subulato-angustata, nervo excurrente. 44. *T. costata.*

Folia a basi amplexante concava ovata, breviter acuminata. 45. *T. læta.*

Folia ovali-lanceolata .... 46. *T. fusca.*

Folia ovato-lanceolata, nervo excurrente mucronata. 47. *T. teretiuscula.*

Folia a basi brevi erecta patentia.

Folia a basi latiore ovata sensim angustata. 48. *T. lævigata.*

Folia anguste lanceolata .... 49. *T. graminicolor.*

Folia apice obtusa, integerrima.

Flores dioici.

Folia a basi latiore truncata longe subulato-angustata. 50. *T. subulifolia.*

Folia a basi parum latiore oblonga, sensim angustata. 51. *T. inundata.*

Folia late lanceolata .... 52. *T. geniculata.*

Folia oblongo-lanceolata, obtusissima, cucullata. 53. *T. humida.*

Flores monoici .... 54. *T. stenocarpa.*

Folia apicem versus serrulata.

Flores monoici .... 55. *T. ænea.*

Flores dioici.

Folia elongato-lanceolata, apice obtusiuscula. 56. *T. Jamesoni.*

Folia a basi parum latiore linearia, apice breviter acuminata. 57. *T. arcuata.*

Folia longe lanceolata, apice obtusiuscule acuta. 58. *T. chimborazense.*

Folia anguste lineari-lanceolata.......... 59. *T. serrulata.*

Folia elongato-lanceolata, obtusiuscula.... 60. *T. elongata.*

Folia elongato-lanceolata, sensim acuminata. 61. *T. subnigra.*

II. SYNTRICHIÆ. *Folia lata, ut plurimum spathulata, oblonga, obtusiuscula, nervo sæpe excurrente piliformi. Peristomium basi sæpe in tubum coalitum.*

Sect. 8. DESMATODON. *Peristomium vel membrana basilari angusta dentibusque rectis vel contortis constans vel omnino nullum.*

Foliorum nervus intus lamellis accessoriis obsitus.
Theca immersa .... 62. *T. subsessilis.*
Theca exserta.
Folia obovato-oblonga, obtusa .... 63. *T. pusilla.*
Folia oblonga, acuta .... 64. *T. atrovirens.*
Folia intus nuda.
Theca gymnostoma.
Folia spathulato-elliptica .... 65. *T. Heimii.*
Folia late oblongo-lanceolata, elongata, longe acuminata.
66. *T. flaviseta.*
Folia subspathulata .... 67. *T. mexicana.*
Folia ovato-lanceolata...................... 68. *T. macrocarpa.*
Theca peristomata.
Flores monoici.
Folia oblonga, ligulata, obtusa .... 69. *T. muralis.*
Folia oblonga .... 70. *T. muricola.*
Folia subspathulato-ligulata, acuta acuminatave.
71. *T. acuminata.*
Folia lanceolata, acuta .... 72. *T. agraria.*
Flores dioici.
Folia spathulato-oblonga, obtusa, planiuscula. 73. *T. mniifolia.*
Folia elongato-oblonga, obtusiuscula ...... 74. *T. platyphylla.*

Sect. 9. ZYGOTRICHIA. *Peristomium basi in tubum coalitum. Caulis gracilis, humilis.*

Theca gymnostoma........................... 75. *T. limbata.*
Theca peristomata.
Folia spathulata, late elliptica, acuta, denticulata. 76. *T. denticulata.*
Folia spathulato-oblonga, acuta obtusiusculave .. 77. *T. peruviana.*
Folia elongate oblongo-subspathulata, apicem versus paucidentata.
78. *T. crenata.*
Folia oblongo-spathulata, acuta, apice serrulata .. 79. *T. Kunzeana.*
Folia a basi lata acuminata................... 80. *T. contorta.*
Folia subpanduræformia, spathulato-oblonga, integerrima.
81. *T. quitoenis.*

Sect. 10. SYNTRICHIA. *Peristomium basi tubulosum. Caulis robustus, sæpe elongatus.*

Florescentia synoica .... 82. *T. princeps.*

Florescentia dioica.
Peristomii dentes fere ad basin discreti.
Folia a basi amplexicauli late oblongo-lanceolata, obtusiuscula vel acuminata..............................83. *T. andicola.*
Folia a basi erecta oblongo-lanceolata, acuminata. 84. *T. decidua.*
Folia late oblongo-ovato-lanceolata, breve acuminata. 85. *T. Goudotii.*
Folia a basi vaginante lato-lanceolata, obtusiuscula. 86. *T. bogotensis.*
Folia a basi angustata sensim oblongo-acuminata. 87. *T. Trianæ.*
Folia oblonga, obtusa ....88. *T. breviseta.*
Folia lanceolato-acuminata, cuspidata ....89. *T. prostrata.*
Peristomium basi tubulosum.
Tubulus brevis.
Folia ligulata ....90. *T. fragilis.*
Folia lanceolata, longe acuminata..........91. *T. aculeata.*
Folia late oblongo-lanceolata..............92. *T. glacialis.*
Tubulus elongatus.
Folia integerrima.
Folia late oblongo-lanceolata............93. *T. scabrinervis.*
Folia ligulata, obtusiuscula ....94. *T. pichinchensis.*
Folia ovata, obtusissima, emarginata ....95. *T. obtusissima.*
Folia ovato-ligulata, obtusa ....96. *T. fuegiana.*
Folia oblongo-spathulata, subpanduræformia. 97. *T. papillosa.*
Folia serrulata.
Folia ligulata, acuminata ....98. *T. robusta.*
Folia oblongo-spathulata ....99. *T. punctulata.*

I. BARBULÆ.

Sect. 1. *Trichostomum.*

Musci caulibus gracilibus humilibus. Folia angusta, incurvo-crispata, nervo in mucronem brevem excurrente. Thecæ parvæ, cylindraceæ. *Habitatio* ad terram et rupes, rarissime ad ligna emortua.

1. T. CHILENSIS (*Mont. in Ann. Sc. Nat.* ser. 3. iv. 109). Cæspitosa. Folia patenti-incurva, apice explanata, obtusa, basi pro spatio subquadrato erecta, pallide lutea, cellulis elongatis areolata, nervo brevissime excurrente, marginibus superne involutis, cellulis minutis obscuris; perichætialia erecta, in dimidio inferiore late ovalia paululum convoluta, in superiore subulata, apice obtusiuscula, obscura. Theca in pedunculo elongato, cylindracea, castanea, verrucosa, operculo subulato theca dimidio breviore; peristomium elongatum, subrectum, ochraceum.

Hab. Andes Quitenses, ad pontem Agoyan prope Baños (5500 ped.), *Spruce*, n. 214; Quito, *Jameson*; Chili, *ex Herb. Montagne.*

Caulis 3–6 lineas altus. Folia 1½ lineam longa, obscure flavo-viridia, inferiora fusca, sicca incurva, crispata. Pedunculus 4-linearis. Theca lineam longa.

2. T. JAMAICENSIS (*Mitt.*). Dioica? caulis brevis, ramosus. Folia a basi erecta patentia, marginibus involutis, nervo excurrente, cellulis basilaribus oblongis pellucidis, superioribus minutis obscuris minutissime papillosis; perichætialia conformia. Theca in pedunculo rubro elongato, cylindracea, lutea, ore intensius colorato.

Hab. Ins. Jamaica, inter *Marchantias, Wilds.*

Caulis ½-uncialis. Folia 1½ lineam longa, sicca incurva, contorta. Pedunculus ¾-uncialis.

3. T. RIVALIS (*Mitt.*). Humilis. Folia a basi latiore erectiore patentia, nervo in mucronem brevissimum excurrente, marginibus inflexis canaliculata, cellulis basilaribus pellucidis, externis oblongis, interioribus elongatis, superioribus rotundatis obscuris fere opacis; perichætialia erectiora, a basi oblonga, convoluta, pallida, subulata, obscura. Theca in pedunculo elongato rubro, cylindracea, operculo subulirostrato.

Trichostomum canaliculatum, *Hampe*; *Sulliv. in Proc. Amer. Acad.* 1861.

Hab. Ins. Cuba, ad rivulos, *Wright*, n. 23.

Caulis 2–3 lineas altus. Folia 1½ lineam longa, viridia, sicca crispata. Pedunculus 6-linearis. Theca lineam longa.

4. T. ANDINA (*Sulliv. U. St. Expl. Exp.* 1859, 5, cum ic.). Dioica, subsimplex. Folia sicca appresso-crispata, humectata patentissima canaliculata, usque ad apicem incurvum late costata. Capsula ovalis, macrostoma, late annulata, collo tumido.

Hab. Andes Peruvianæ, 15,000 ped.

One inch high. Leaves from an erect, oblong, amplexicaul base, incurved at the apex; areolation minute, dense, roundish in the upper portion of the leaf; capsule erect, oval, with a conspicuous collum, operculum erect, long, rostrate; teeth of peristome much as in *Trichostomum crispulum* (from Europe), but the differently shaped leaves, collum of the capsule, and annulus separate it.—*Sulliv. l. c.*

5. T. CONTORTIFOLIA (*Mitt.*). Dioica?, humilis. Folia cellulis elongatis pellucidis areolata, divergentia, canaliculata, nervo brevissime excurrente, marginibus erectis integerrimis, cellulis rotundatis obscuris fere opacis; perichætialia in dimidio inferiore ovali-convoluta, erecta, in superiore subulata, patenti-recurva. Theca in pedunculo rubro flexuoso, cylindracea, operculo dimidio breviore subulato, cellulis spiraliter adscendentibus areolato.

Hab. Andes Quitenses, Chimborazo (10,000 ped.), *Spruce*, n. 213.

Caulis ½ unciam altus, cæspitosus. Folia 1½ lineam longa, fusca, sicca incurva, contorta. Pedunculus 7-linearis. Theca 1½ lineam longa.

6. T. BRACHYDONTIA (*Bruch et Müll. in Flora*, 1829, Trichostomum). Humilis. Folia a basi vix latiore erectiore patentia divergentiaque, nervo in mucronem brevem producto, planiuscula, marginibus flexuosis, cellulis basilaribus paucis oblongis pallidis ad latera pellucidioribus; perichætialia erectiora, inferne latiora. Theca in pedunculo breviusculo luteo, oblonga, operculo subulato, peristomii dentibus brevibus irregularibus.

Trichostomum mutabile, *Bruch in Bryol. Europ. Trichost.* t. 5.

Hab. Andes Quitenses; Quito, *Jameson*; Baños (6000 ped.), ad terram in præruptis, *Spruce*, n. 210. Chimborazo (10,000 ped.), *Spruce*, n. 211.

Caulis 3–4 lineas altus. Folia lineam longa, viridia, lutescentia, sicca crispata. Pedunculus 4-linearis. Theca linea brevior.

7. T. TENUIROSTRIS (*Hook. et Tayl. Musc. Brit.* ed. 2. 83, *Suppl.* 3). Folia patentia, longe parum canaliculata, nervo brevissime excurrente, cellulis basilaribus oblongis pellucidis, superioribus rotundatis obscuris papillosis; perichætialia paululum latiora, patentia. Theca in pedunculo elongato gracili, cylindracea, operculo subulato, peristomii dentibus brevibus rubris.

Didymodon calyptratus, *Tayl. in Hook. Lond. Journ.* vii. 188.

Didymodon cylindricus, *Bryol. Europ.*

Hab. Andes Quitenses; Pichincha, *Jameson*.

Caulis ¼–½-uncialis. Folia 1½-linearia, luteo-viridia, siccitate crispata, marginibus ob papillas prominulas subcrenulata. Pedunculus ¾-uncialis. Theca lineam longa.

8. T. SCHLIMII (*C. Müll. in Bot. Zeit.* 1857, Trichostomum). Humilis, gracilis, parce ramosa, intense viridis. Folia sicca spiraliter torta, humida stellatim patentia, flexuosa, carinata, margine erecto integerrima, obscure viridia, cellulis parvis, quadratis, in basi vaginante rectangularibus, flavescentibus, pellucidis. Seta gracilis, tortilis, erecta. Theca erecta, cylindrica, operculo brevi conico-subulato obliquo.—*Hampe in Ann. Sc. Nat.* ser. 5. iii. 344.

Hab. Andes Bogotenses (3100 metr.), inter *Polytricha*, *Lindig*; in prov. Sancta Martha, Minca, *Schlim*. n. 914.

9. T. CANALICULATA (*Mitt.*). Folia patentia, marginibus inflexis canaliculata, nervo breviter excurrente, cellulis basilaribus parvis oblongis pellucidis, superioribus rotundis obscuris; perichætialia erectiora. Theca in pedunculo brevi, cylindracea, elongata, ore rubro, operculo subulato, peristomii dentibus brevibus.

Hab. Ins. Cuba, *Wright*, n. 25 et 26.

Caulis 3-linearis. Folia lineam longa, viridia, lutescentia, sicca crispata.

10. T. AUSTRALASIÆ (*Hook. et Grev. in Brewst. Edinb. Journ.* i. 301, t. 12). Humilis. Folia a basi pellucida erecta patentia, sensim curvata, canaliculata, nervo infra apicem evanescente, marginibus planiusculis, cellulis basilaribus oblongis, superioribus rotundis fere pellucidis; perichætialia erectiora, inferne latiora, marginibus recurvis reflexisve. Theca in pedunculo elongato, cylindracea, erecta, operculo dimidio breviore, peristomii dentibus elongatis parum tortis, annulo angusto cinctis.

Barbula Pœppigiana, *C. Müll. Syn.* i. 606.

Hab. Andes Quitenses, Baños (6000 ped.), *Spruce*, n. 186; Guayrapata (9000 ped.), *Spruce*, n. 187; Quito (10,000 ped.), *Spruce*, n. 188; Chili, *ex Herb. Montagne*; Colchaque, *Lobb*; Talcahuano, *Pœppig*.

Caulis 2–6 lineas altus. Folia 1–1½ lineam longa, gramineo-viridia, inferne pallide fulvo-fusca, sicca crispata. Pedunculus 6–9-linearis. Theca lineam longa.

The habit of this species is somewhat peculiar, and it may have been described under some other names besides that of *B. Pœppigiana*.

11. T. DECOLORANS (*Hampe in Ann. Sc. Nat.* ser. 5. iii. 348). Dense aggregata, subfastigiata, olivaceo-viridis, decolorans; caulis innovando-ramosus, innovationibus laxe apice stellato-foliatus. Folia canaliculata, integerrima, humida patula, sicca uncinato-tortilia, cellulis basilaribus laxioribus elongato-quadratis teneris limpido-hyalinis, versus apicem sensim brevioribus, demum in apice folii rotundatis, fere opacis; perichætialia conformia, patula, nervo crasso latescente apice evanido. Seta caulem æquans, flavescens, demum fuscata, erecta, ob innovationes sæpe pseudolateralis. Theca rufescens, elliptico-cylindrica, operculo conico-subulato concolori, peristomii dentibus pallide aurantiacis longis didymis superne parce tortis.

Hab. Andes Bogotenses, Guadelupe (3100 metr.), in "Barrancas," *Lindig*.

12. T. LINEARIS (*Swartz*). Humilis. Folia planiuscula, patentia, nervo in mucronem brevem excurrente, cellulis basilaribus oblongis pallidis, superioribus rotundatis obscuris; perichætialia basi parum latiora, superne augustiora. Theca cylindracea, erecta, in pedunculo breviusculo; operculum subulatum; peristomium "pluries contortum, in membrana basilari vix contorta."

Hab. Ins. Hispaniola, in siccis calcareis, *Swartz*; Trinidad, Serra de Avila, *Crüger*.

Caulis 1–1½ lineas altus. Folia longiora 1½ lineam longa, luteo-viridia. Pedunculus 3-linearis. Theca ¾ lineam longa.

13. T. CÆSPITOSA (*Schwægr.* t. 31). Humilis. Folia a basi erectiore parum latiore patentia recurvave, nervo in mucronem brevissimum excurrente, canaliculata, marginibus flexuosis, cellulis superioribus rotundatis

obscuris, basilaribus oblongis teneris pellucidis; perichætialia conformia. Theca in pedunculo elongato rubro, cylindracea, recta curvatave, operculo subulato; peristomium elongatum, tortum.

Hab. Ins. Jamaica, *Heward*; Brasilia, *Herb. Montagne*; Piedade, *Milne, Gardner*, n. 16 *c* et 34; prope Corritiba, in sylvis ad terram (2000 ped.), *Weir*, n. 107.

Caulis 2–4 lineas altus. Folia 1½ lineam longa, viridia, lutescentia, sicca crispata. Pedunculus 6-linearis. Theca 1¼ lineam longa, operculo dimidio breviore.

Sect. 2. *Helicopogon.*

Musci gregarie cæspitosi. Folia obtusa v. obtuse acuta, perichætialia parum diversiformia. Thecæ erectæ, peristomio elongato torto. Florescentia dioica. *Habitatio* ad terram humidam.

14. T. CRUEGERI (*Sond.*; *C. Müll. Syn.* i. 618). Humilis. Folia patentia, nervo crassiusculo dorso superne scabro in mucronem minutum pallidum excurrente, canaliculata, marginibus inferne recurvis, cellulis basilaribus in medio folio oblongis externisque quadratis pellucidis, superioribus rotundatis obscuris; perichætialia inferne latiora, laxe convoluta. Theca in pedunculo rubro, cylindracea, pallida, leptoderma, operculo subulato; peristomium elongatum, rubrum, tortum.

Hab. Ins. Cuba, *Wright*, n. 30; Sti. Vincentis et Barbadoes, *Parker*; Trinidad, *Crüger*; Venezuela, Cumbre de Caracas, *Wagner*. Andes Peruvianæ, Tarapoto, in declivis humidis (1500 ped.), *Spruce*, n. 168; in fl. Huallagæ ripis (1300 ped.), *Spruce*, n. 169; Tarapoto, in ascensu montis Guayrapurina (2500 ped.), *Spruce*, n. 170, ad saxa fl. Huallaga inundata (1300 ped.), *Spruce*, n. 171; in saxis riv. Shillicaio (1500–2000 ped.), *Spruce*, n. 179. Andes Quitenses, ad cataractam Agoyan (5000 ped.), *Spruce*, n. 168 *b*; in rivulo Batcun montis Tunguragua (6000 ped.), *Spruce*, n. 178, forma elatior.

Caulis 3–6 lineas altus. Folia ½ lineam longa. Pedunculus 3–9 lineas longus. Theca ½-linearis.

15. T. OBSCURA (*Sulliv. in Proceed. Amer. Acad.* 1861). Humilis. Folia patenti-incurva, canaliculata, nervo dorso scabro in mucronem brevissimum excurrente, marginibus recurvis, cellulis inferioribus ad nervum paucissimis oblongis pallidioribus, reliquis rotundis, superioribus obscuris; perichætialia in dimidio inferiore ovata laxe convoluta, in superiore patentia, subulata, acuta. Theca in pedunculo elongato, cylindracea, leptoderma.

Hab. Ins. Cuba, in declivibus siccis, *Wright*, n. 31.

16. T. FLAGELLARIS (*Schimp. in Ann. Sc. Nat.* ser. 2. vi. 146, f. 10). Caules aggregati. Folia patentia, carinata, marginibus revolutis, cellulis basilaribus pellucidis, interioribus oblongis, externis quadratis, superiori-

bus rotundatis obscuris; perichætialia erecta, lato-lanceolata, sensim acuminata, laxe convoluta, tenera, pellucida, nervis excurrentibus. Theca in pedunculo rubro cylindracea, erecta, operculo dimidio breviore; peristomium elongatum, tortum, ochraceum, dentibus usque ad basin liberis.

Barbula depressa, *Sull. in U. St. Expl. Exp.* 1859, 5.

Hab. Chili, *Herb. Montagne*; Colchaque, *Herb. Hooker*; Arique, *Lechler*, n. 626; Valparaiso, *Amer. Expl. Exped.*; Magellan, Sandy Point, *Lechler*.

Caulis ½–¾ unciam altus. Folia lineam longa, laxe disposita, sicca intorta, luteo-viridia, fulvescentia. Pedunculus 5–6 lineas longus. Theca lineam longa.

17. T. BRACHYMENIA (*Mitt.*). Caulis brevis, ramosus, cæspitosus. Folia patentia, marginibus inferne reflexis, apice cellulis prominentibus crenulatis, cellulis basilaribus oblongis hyalinis, superioribus rotundatis viridibus papillosis obscuriusculis; perichætialia angustiora, obtusa, pilo longiore. Theca in pedunculo rufescente, cylindracea, suberecta, operculo subulato theca dimidio breviore, peristomii dentibus luteis granulosis parum tortis basi brevissime coalitis.

Hab. Andes Quitenses, *Jameson.*

Caulis ½ unciam altus. Folia congesta, lineam longa, fusco-viridia. Pedunculus 5-linearis.

Ex habitu *T. lævipilæ* similis, sed peristomii foliorumque structura *T. piliferæ* affinior.

Sect. 3. *Pachynoma.*

Musci aggregati, humiles. Folia plus minus lanceolata, obtusa acutave, marginibus valde revolutis; perichætialia diversiformia. Thecæ erectæ. Flores dioici. *Habitatio* ad terram et rupes.

18. T. REPLICATA (*Tayl. in Hook. Lond. Journ.* v. 49; *Wils. l. c.* t. 15. f. c). Humilis, cæspitosa. Folia patentia, nervo crasso dorso scabro in mucronem hyalinum excurrente, canaliculata, marginibus revolutis, cellulis basilaribus elongatis angustis flavidis, superioribus parvis obscuris fere opacis; perichætialia longiora, inferne longius pallida. Theca in pedunculo rubro cylindracea, erecta, operculo dimidio breviore; peristomium tortum; annulus angustus, persistens.

Hab. Andes Quitenses, Quito, *Jameson*; ibidem (10,000 ped.), *Spruce*, n. 204; Ambato (8700 ped.), *Spruce*, n. 203; Baños ad muros (6000 ped.), *Spruce*, n. 205; ad riv. Cusatagua, prope Ambato (8500 ped.), *Spruce*, n. 206.

Caulis ¼–½ unciam altus. Folia lineam longa, glauco-viridia, fuscescentia. Pedunculus 6–8-linearis. Theca lineam longa.

19. T. SPIRALIS (*Schimp.*; *C. Müll. Syn.* i. 622, Barbula). Dense

foliosa, fastigiatim ramosa. Folia patentia et recurva, sicca spiraliter incumbentia, canaliculata, marginibus valde revolutis, nervo valido in mucronem excurrente; perichætialia late lanceolata, haud vaginantia, nervo solido. Theca elliptica, annulata, operculo conico brevirostro.—*C. Müll. l. c.*

Hab. Mexico, Yarrea(?), prope Mirador, *Liebmann.*

A *T. revoluta* simillima, cujus folia, peristomium, annulum et sporas habet, statura majore et fortiore, foliorum imbricatione spirali et perichætialibus haud vaginantibus differt.—*C. Müll. l. c.*

20. T. GLAUCESCENS (*Hampe in Linnæa,* xxxii. 128). Dense aggregata, pulvinatim cæspitosa, subcompacta; caulis gracilis, inferne fuscescens superne diviso-ramosus, ramis teretibus subfastigiatis glaucescentibus. Folia spiraliter accumbentia, madefacta erecto-patentia, margine revoluta, nervo crasso rufescente percursa, cellulis basilaribus elongatis, alaribus et intermediis quadratis diaphanis, versus apicem sensim densioribus minoribusque subrotundis fere opacis; perichætialia pauca, appressa, strictiuscula, longiora, omnia integerrima. Seta gracillima, caulem fere duplo superans, parum flexuosa, basi nigricans, apice flavescens. Theca ovato-cylindrica, rufescens, demum nigricans, nitida, operculo conico subulato parum curvato, tertiam vel fere dimidiam partem thecæ metiente, dentibus peristomii parce nodulosis aurantiacis, in membrana brevissima tessellata connexis, parum superne tortis; calyptra lævis, rufescenti-fuscata.—*Hampe, l. c.*

Hab. Andes Bogotenses, Guadelupe (3200 metr.), ad rupes, *Lindig.*

21. T. APPRESSA (*Mitt.*). Cæspitosa, humilis, gracilis. Folia patentia, nervo crasso brevissime excurrente, canaliculata, marginibus revolutis, cellulis inferioribus quadratis pellucidioribus, superioribus rotundatis obscuris; perichætialia majora, late ovata, acuta, laxe convoluta, subpellucida. Theca in pedunculo rubro, ovali-cylindracea, subinclinata, operculo dimidio breviore, peristomio torto.

Hab. Chili, *Lobb.*

Caulis ½-uncialis. Folia ½ lineam longa, fusco-viridia, sicca arcte appressa, spiraliter contorta. Pedunculus 5-linearis. Theca lineam dimidiam parum excedens.

Habitus *B. gracilis* Europæ, sed gracilior.

22. T. PRUINOSA (*Mitt.*). Humilis, cæspitosa. Folia erecto-patentia, apice explanata, breviter acuta, canaliculata, nervo crasso percursa, marginibus revolutis, cellulis basilaribus ad nervum paucis oblongis, reliquis omnibus parvis rotundis obscuris; perichætialia majora, conformia, erecta, sensim acuminata, basi cellulis elongatis pellucidis. Theca in pedunculo rubro, cylindracea, operculo oblique subulato; peristomium tortum; annulus angustus, persistens.

Hab. Andes Quitenses, Carguairazo (10,000–11,000 ped.), *Spruce,* n. 208; Chimborazo (10,000 ped.), *Spruce,* n. 209.

Caulis ½ unciam altus. Folia lineam longa, juniora glauco-viridia, sicca pruinosa, spiraliter appressa, contorta, inferiora fusca. Pedunculus ½-uncialis. Theca lineam longa.

23. T. LEUCOCALYX (*Mont. in Ann. Sc. Nat.* ser. 2. ix. 53). Caulis interrupte stellatim foliosus. Folia majora canaliculata, nervo sub apice desinente dorso scabro, marginibus ubique revolutis, cellulis basi interioribus breviter oblongis pellucidis, superioribus obscuris papillosis; perichætialia in cylindrum convoluta, squamæformia, ligulata, interiora maxime obtusata, basi laxissime superne minutissime sed pellucido-reticulata, obsoletinervia, albida. Theca in pedunculo ob innovationes laterali mediocri stricto rubro, cylindracea, incurva, operculo subulato.

Hab. Chili, *Herb. Montagne.*

Caulis subuncialis. Folia lineam longa, lutea.

Habitu et structura foliorum *T. replicatæ* et ejus affinibus similis.

24. T. APICULATA (*Hampe in Linnæa*, xxxi. 519). Laxe cæspitosa, pulvinatim expansa; caulis semi- usque ad sesquiuncialis, basi fuscescente radiculosa, gracilis, apice plus minusve fastigiato-ramosus, erectus, superne rufescens vel obscure virens. Folia undique laxe imbricata, erecto-patentia, sicca spiraliter accumbentia, concava, margine arcte revoluto integerrima, nervo crasso percursa, apiculata, cellulis basi folii alaribus quadratis hyalinis, intermediis elongatis lutescente diaphanis, versus apicem densissimis rotundatis opaca; perichætialia e basi vaginante longiora, subconformia. Seta brevis, gracilis, erecta, semiuncialis vel brevior vel paulo longior. Theca elliptico-cylindrica, dura, fuscescens, operculo conico-subulato brevi, tertiam vel quartam partem thecæ attingente, peristomii dentibus albidis contortis, annulo angusto cinctis.

Hab. Nova Granata, Fontibon (2600 metr.), *Lindig*, n. 2148.

B. unguiculatæ (Europæ) affinis, ex toto firmior, primo adspectu jam foliis siccis spiraliter accumbentibus margine toto arcte reflexis et rigidioribus dignoscitur. *B. spiralis* Schimp. ined. multo minor et magis ad *B. revolutam* spectans. *B. replicata* Tayl. differt caule pusillo simplici pallide viridi.—*Hampe, l. c.*

25. T. INÆQUALIFOLIA (*Tayl. in Hook. Lond. Journ.* v. 49; *Wils. l. c.* t. 15. f. D). Humilis, cæspitosa. Folia erecto-patentia, inferiora late ovata obtusa, superiora longiora, nervo crassiusculo dorso subpapilloso percursa, canaliculata, marginibus revolutis, cellulis basi paucis oblongis, inde abbreviatis granulosis obscuris, superioribus fere opacis; perichætialia longiora, elliptico-lanceolata, acutiora. Theca in pedunculo rubro, longe cylindracea, subarcuata, operculo dimidio breviore, peristomio elongato torto, annulo angusto adhærente.

Hab. Andes Quitenses, Quito, *Jameson*; ibidem ad aggeres et in montibus Chimborazo, Guayrapata, et Titaicun (9000–11,000 ped.), *Spruce*, n. 173.

Caulis vix 3-linearis. Folia ¾-linearia, perichætialia lineam longa, omnia rubiginosa, stricta, appressa. Pedunculus 7-linearis. Theca 1½-linearis.

26. T. EXCAVATA (*Mitt.*). Caulis brevissimus. Folia patentia, nervo lato sub apice abrupto carinata, marginibus latissime replicatis, cellulis basi pellucidis oblongis laxis, superioribus parvis obscuris papillosis; perichætialia elongata, pallida, convoluta, latissime ovata, acuta obtusave, nervo in externis angustissimo percurrente in internis obsoleto, cellulis oblongis pellucidis lævibus. Theca in pedunculo elongato luteo, cylindracea, operculo subulato; peristomium elongatum, dentibus basi breviter coalitis.

Hab. Andes Quitenses, Carguairazo (10,000–11,000 ped.), *Spruce*, n. 207.

Caulis lineam altus, ramulis pluribus æquilongis. Folia brevia, explanata late obovata, intense viridia, perichætialia pallida lutea. Pedunculus ¾-uncialis.

27. T. MENDOZENSIS (*Mitt.*). Cæspitosa; humilis. Folia patentia, inferiora ovata, apice autem explanato obtusiuscula, apiculo brevi, canaliculata, nervo percursa, marginibus revolutis, cellulis basi ad nervum paucissimis oblongis, reliquis rotundatis obscuris; perichætialia longiora, erecta, apicibus latiusculis obtusis. Theca in pedunculo elongato flexuoso rubro, cylindracea, operculo dimidio breviore, peristomio torto.

Hab. Andes Chilenses, Mendoza, *Gillies.*

Caulis ½-uncialis. Folia ¾-linearia, omnia lutea, sicca incurva, appressa, vix torta. Pedunculus ½-uncialis. Theca linea brevior.

28. T. FUSCINERVIA (*Mitt.*). Cæspitosa; caulis elongatus, gracilis. Folia patentia, sicca appressa, spiraliter contorta, nervo crasso fusco percursa, marginibus revolutis, cellulis basilaribus quadratis pellucidioribus, superioribus parvis rotundis obscuris papillosis; perichætialia elliptico-ovalia, acuta, longiora. Theca in pedunculo rubro, ovali-cylindracea, operculo subulato, peristomium theca dimidio brevius, tortum.

Hab. Chiloe insula, *Lobb.*

Magnitudine adspectuque omnino *T. Hornschuchianæ* Europæ similis, foliis autem minus acutis, perichætialibusque latis diversiformibus.

Sect. 4. *Plaubelia*, Brid. i. 522.

Musci humiles, graciles. Folia brevia, parva, obtusa, sæpe cucullata, nervis crassis. Thecæ breviter pedunculatæ, peristomii dentibus parum tortis. Flores dioici. *Habitatio* ad terram.

29. T. BERTEROANA (*Spreng. Syst. Veg.* iv. 156, Weisia). Cæspitosa, tenella, gracillima, flexuose erecta, tenerrime foliosa, viridissima, inferne ferruginea subsimplex. Folia minuta, erecto-patentia, sicca tortilia, nervo flavido crassiusculo in cuspidem brevissimam producto, mar-

gine integra revoluta s. plus minus involuta, basi minute quadrate superne minutissime hexagono-areolata, tenuissime papillosa; perichætialia basi e cellulis amplis parvis pellucidis hexagonis reticulata, apice parum crenulata. Theca in pedunculo brevi tenuissimo flavido erecta, cylindrico-elliptica, ore paulo coarctata, angustissima, minuta, brunnescens, parum incurva, annulata, operculo conico-rostrato obliquo breviusculo; peristomii dentes breves fusci rugulosi, inæqualiter binati et irregulares, in membrana valde exserta fusca positi.—*C. Müll. Syn.* i. 568, sub *Trichostomo.*

Plaubelia tortuosa, *Brid.*

Barbula Sprengelii, *Schwægr.* t. 119.

Hab. Hispaniola, *Bertero.*

Species omnium tenerrima, speciminibus *Trichostomi mutabilis* vel *crispuli* minoribus vel *T. indico* affinis.—*C. Müll. l. c.*

30. T. OCCIDENTALIS (*Mitt.*). Tenella. Folia erecto-patentia, cucullata, canaliculata, nervo crasso dorso scabro superne opaco percursa, marginibus erectis, cellulis inferioribus ad nervum paucis oblongis pellucidis, reliquis obscuris fere opacis; perichætialia longiora, dimidio inferiore ovali pellucido convoluto, superiore subulato obtuso obscuro. Pedunculus brevis. Theca oblonga, leptoderma, erecta, operculo subulato, peristomii dentibus breviusculis, basi in membranam breviter exsertam brevem coalitis.

Hab. Andes Peruvianæ, Lamas, in arenosis (2000 ped.), *Spruce*, n. 224.

Caulis 1½ lineam altus. Folia ⅓ lineam longa, luteo-viridia, glauca. Pedunculus 1½-linearis. Theca ochracea, tenera, subnitida. *T. indicæ* simillima.

31. T. CUCULLIFERA (*Mitt.*). Folia erecto-patentia, imbricata, nervo lato crasso superne intus filamentis articulatis vestito dorso lævi percursa, marginibus integerrimis, cellulis basilaribus suboblongis pellucidis, superioribus quadratis subobscuris; perichætialia longe exserta, erecta, concoloria, a basi oblonga subulata, tenera, nervata. Pedunculus elongatus, ruber. Theca cylindracea, inclinata, operculo subulato, peristomii dentibus ochraceis brevibus angustis.

Hab. Andes Quitenses, in monte Chimborazo (11,000 ped.), *Spruce.* Andes Peruvianæ, Cerro Pasco, *Mathews.*

Caulis 3–5 lineas altus. Folia ½ lineam longa, lutescentia, subnitida. Pedunculus 4-linearis. Theca lineam longa.

32. T. AMBLYOPHYLLA (*Hook. Bot. Misc.* i. 352, t. 75). Caulis brevis. Folia patentia, concava, nervo infra apicem desinente, marginibus reflexis, cellulis rotundatis, limitibus latiusculis subobscuris; perichætialia majora, erecta, laxe convoluta, apicibus late rotundatis. Pedunculus crassiusculus. Theca ovalis, operculo subulirostrato.

Hab. Andes Chilenses, Mendoza, *Gillies.*

Caulis 1–2 lineas altus. Folia ¼ lineam longa, viridia, mollia. Pedunculus 2-linearis.

33. T. MONTANA (*Mitt.*). Caulis brevis. Folia sparsa, erecto-patentia, apice latiuscula, cucullata, subacuta obtusave, nervo infra apicem evanido, marginibus erectis, cellulis basilaribus elongatis angustis, superioribus parvis quadratis subobscuris lævibus; perichætialia longiora, late lanceolata, apice obtusa. Theca cylindracea, in pedunculo elongato rufo, operculo subulato æquilongo; peristomium breviusculum.

Hab. Andes Quitenses centraliores, *Jameson.*

Caulis 3 lineas altus. Folia in caulibus sterilibus julaceo-imbricata, in fertilibus dissita, pallide luteo-viridia. Pedunculus ½-uncialis.

34. T. LIGULARIS (*Mitt.*). Caulis brevis. Folia laxa, patentia, nervo crasso sub summo apice evanido carinata, marginibus in medio folio recurvis, cellulis basilaribus oblongis quadratisque pellucidioribus, superioribus parvis quadratis obscuris papillosis; perichætialia longiora, exserta, erecta, a basi ovali convoluta, acuminata, apice obtusa. Pedunculus elongatus, flavus. Theca cylindracea, operculo conico-acuminato, peristomii dentibus brevibus, basi in membranam brevem coalitis; annulus simplex.

Hab. Andes Quitenses, in faucibus montis Pichincha, *Jameson.*

Caulis 2–3 lineas altus. Folia fusca.

T. flavescenti Indiæ orientalis similis, foliis tamen a basi latiore angustatis longioribus et perichætialibus exsertis diversa.

35. T. PATAGONICA (*Mitt.*). Folia caulina patentia, subimbricata, cucullata, concava, nervo crasso infra apicem desinente, marginibus anguste revolutis, cellulis basilaribus pellucidioribus quadratis, superioribus obscuris; perichætialia longiora, erecta, inferne ovalia, convoluta, pellucide areolata, subulato-angustata, apice obtusa, margine haud recurva, nervo angustiore. Pedunculus elongatus. Theca elliptico-cylindracea, operculo subulato, peristomii dentibus brevibus rectis.

Hab. Patagonia, *Lobb.*

Caulis 2 lineas altus. Folia vix ½ lineam longa, fusca. Pedunculus 4-linearis.

Sect. 5. *Leptopogon.*

Musci humiles. Folia brevia, obtusiuscula; perichætialia in cylindrum exsertum convoluta, teneriora. Thecæ suberectæ, longe pedicellatæ, peristomii dentibus longissimis contortis. Flores dioici. *Habitatio* ad terram.

36. T. CALYCULOSA (*Mitt.*). Caulis brevissimus. Folia patenti-recurva, ovato-lanceolata, superiora longiora, nervo dorso scabro sub apice evanido carinata, integerrima, cellulis basilaribus paucis oblongis pellucidis, superioribus parvis papillosis obscuris; perichætialia externa basi lata, interna erecta, parum breviora, latissime ovata, convoluta, obtusiuscula. Theca in pedunculo elongato gracillimo luteo, cylindracea, erecta

inclinatave, operculo subulato, peristomii dentibus rubris, in spiram longitudine thecæ $\frac{3}{4}$ æquantem productis, basi in tubulum brevem coalitis.

Hab. Andes Quitenses ad pedem montis Tunguragua (7000 ped.), *Spruce*, n. 172.

Caulis lineam altus, innovationibus æquilongis ramosus. Folia $\frac{1}{2}$ lineam longa, viridia. Pedunculus $\frac{3}{4}$ unciam longus.

37. T. LONGIROSTRIS (*Hampe, in Ann. Sc. Nat.* ser. 5. iii. 345). Monoica, gregaria, humilis, lucide viridis; caulis erectus, a basi parce ramosus, laxe foliatus. Folia caulina accumbentia, canaliculato-involuta, uncinata, torta, brevia, integerrima, cellulis basilaribus oblongo-quadratis, secundis angulato-subrotundis pellucidis, in lamina superiore dense aggregatis omnino opacis, nervo crasso lutescente ad apicem producto. Seta gracilis, erecta, caulem pluries superans. Theca parva, erecta, anguste ovata vel elliptico-cylindrica, operculo longissimo thecam subæquante conico subulato recto; peristomium longissimum, sinistrorsum tortum, intense aurantiacum; calyptra angusta longissima flavescens.

Hab. Andes Bogotenses, in monte del Morro (2200 metr.), in terra nuda, *Lindig*.

Ab *B. paludosa* confinis longe diversa.—*Hampe, l. c.*

38. T. CALYCINA (*Schwægr.* t. 119). Caulis humilis. Folia densa, a basi subquadrata erecta, angustata, patentia, apice recurvo-apiculata, planiuscula, nervo crasso concolori excurrente, marginibus integerrimis subundulatis, cellulis in parte superiore minutis rotundatis obscuris, in parte erectiore ad latera elongatis hyalinis tenerrimis, ad nervum firmis flavidis, superioribus seriatim papillosis; perichætialia arcte convoluta, pallida, pellucida, longe exserta, apicibus subulatis patentibus, nervis obsoletis. Theca in pedunculo longissimo rubro, cylindracea, inclinata, operculo subulato; peristomium thecam longitudine æquans, dentibus usque ad basin liberis; annulus magnus.

Hab. Chili, *Herb. Hook.*

Sect. 6. *Aloina*, C. Müll. Syn. i. 596.

Musci caulibus brevissimis. Folia firma, sicca incurva, perichætialia inconspicua. Thecæ longe pedunculatæ, erectæ vel inclinatæ. *Habitatio* ad terram.

39. T. CALCEOLIFOLIA (*Spruce*). Caulis brevissimus. Folia patula, majora supra basin angustata, deinde latiora, ob margines superiores late inflexos serrulatos spathulata, obtusa, cucullata, cellulis basilaribus oblongis, superioribus subquadratis, iis marginis inflexi transverse oblongis incrassatis pellucidioribus, nervo lato percurrente; perichætiale unicum erectum spathulato-oblongum acutum margine subdentatum, nervo lato infra apicem evanido, dimidio superiore intra folium cellulis liberis obtecto, cellulis basilaribus prosenchymaticis elongatis, superioribus rhom-

beis. Theca in pedunculo flavo flexuoso erecta, cylindracea, subarcuata, operculo subulato, peristomii dentibus elongatis.

Hab. Andes Quitenses, Carguairazo (11,000 ped.), ad terram nigram aggerum, *Spruce*, n. 155.

Caulis lineam altus. Folia rubiginosa. Pedunculus 9-linearis. Theca $1\frac{1}{2}$-linearis.

T. ambiguo Europæ similis.

Sect. 7. *Barbula*, Hedw. Fund. ii. 92.

Musci graciles vel robusti, caulibus plus minus elongatis. Folia sicca appressa, rarius subcrispata, perichætialia parum diversiformia. Thecæ longe pedunculatæ, angustæ, peristomii dentibus elongatis tortis vel brevioribus subrectis. Florescentia dioica. *Habitatio* ad terram et rupes.

40. T. RECTIFOLIA (*Tayl. in Hook. Lond. Journ.* v. 49). Cæspitosa, humilis. Folia brevia, patentia, sicca appressa imbricata, inferiora ovata, canaliculata, marginibus recurvis, cellulis inferioribus quadratis paucis suboblongis, superioribus marginalibusque rotundatis haud obscuris; perichætialia erecta, inferne late elliptica, laxe convoluta, exinde subulata. Theca in pedunculo elongato rubro, cylindracea, erecta, operculo dimidio breviore; peristomium tortum; annulus persistens angustissimus.

Hab. Guatemala, Volcan de Fuego, *Godman et Salvin.* Andes Novo-Granatenses, Bogota, loco Boqueron (9000 ped.), *Weir*, n. 226. Andes Quitenses, *Jameson*; Guayrapata (9000 ped.), *Spruce*, n. 183; Quito (10,000 ped.), *Spruce*, n. 184. In Peruvia, *Mathews.*

Caules 3–6 lineas alti. Folia $\frac{1}{2}$ lineam longa, fusco-viridia. Pedunculus 5–7 lineas longus.

41. T. NOVOGRANATENSIS (*Hampe in Linnæa*, xxxi. 518). Cæspitosa expansa, dense aggregata, rufescente aurea vel crocea; caulis brevis gracilis simplex, innovationibus subfastigiatis adauctus. Folia sicca accumbenter erecta, madefacta undique imbricata, erecto-patula, margine arcte reflexo integerrima, nervo crasso rufescente ad apicem producto, cellulis subrotundis ad marginem folii densioribus subhyalina; perichætialia longiora, laxe convoluta, superiora accumbentia late oblongo-lanceolata longe acuminata, cellulis basilaribus pentagono-ellipticis laxis hyalina, versus apicem sensim decrescentibus cellulis demum dense aggregatis papilloso-punctatis, nervo crasso percursa subopaca. Seta gracilis, elongata, uncialis, parum flexuosa, erecta. Theca a basi paulo latiore subcylindrica, ore rubro cincta, operculo conico subulato obtusiusculo suberecto, dentibus peristomii bis terve contortis solidioribus viridibus opacis, basi membrana brevi tessellata conjunctis, annulo lato circumdatis.

Hab. Nova Granata, Cipacon (2500 metr.), *Lindig.*

T. gracili Schwægr. (Europæ) proxima differt toto habitu et colore setaque longiore et theca annulo prædita. An huc *T. rectifolia* Tayl. ex Andibus quæritur.—*Hampe, l. c.*

42. T. CAMPYLOCARPA (*Tayl. in Hook. Lond. Journ.* vii. 187). Humilis. Folia patentia, stricta, canaliculata, marginibus inferne reflexis, cellulis basilaribus paucissimis oblongis, superioribus quadrato-rotundis inter se remotiusculis subpellucidis; perichætialia erecta, ovato-oblonga, convoluta, superne anguste subulata. Pedunculus elongatus. Theca cylindracea, arcuata suberectave, leptoderma, operculo subulato dimidio breviore; peristomium elongatum.

Hab. Guatemala, Volcan de Fuego, *Godman et Salvin*. Andes Quitenses, Quito, Pichincha, et Chimborazo, *Jameson*; Quito in præruptis humidis (10,000 ped.), *Spruce*, n. 201; in rivulo Baccun montis Tunguragua (7000 ped.), *Spruce*, n. 185, forma major.

Caulis ½ unciam altus. Folia lineam longa, fusco-viridia, rufescentia. Pedunculus 5 lineas longus.

T. fallaci (Europæ) similis, foliis autem magis subulato-angustatis.

43. T. APPRESSIFOLIA (*Mitt.*). Caulis humilis, ramosus. Folia erecta, imbricata patentiave, subacuminata, nervo lato percursa, marginibus erectis, cellulis quadratis transverse latioribusque, inferioribus pellucidis, superioribus subobscuris; perichætialia elongata, erecta, late ovata, breviter acuminata, convoluta, parum pallidiora. Theca oblonga, in pedunculo rubro, operculo longitudine thecæ ⅓ breviore.

Hab. Andes Peruvianæ, Huamantanga et Cerro Pasco, *Mathews*.

Caulis 2–3 lineas altus. Folia ⅕ lineam longa, rubiginosa, sicca et humida appressa. Pedunculus 2½ lineas longus.

44. T. COSTATA (*Mitt.*). Caulis humilis. Folia squarrosa, recurva, canaliculata, nervo lævi, marginibus recurvis integerrimis, cellulis basilaribus paucis oblongis pellucidioribus, superioribus rotundatis obscuriusculis; perichætialia erecto-patentia, a basi oblongo-ovata convoluta, sensim subulata, flexuosa. Theca in pedunculo rubro elongato flexuoso, elliptico-cylindracea, subinclinata, subinæqualis, operculo subulato dimidio breviore obliquo, peristomii dentibus elongatis parum tortis.

Hab. Andes Quitenses, Baños (7000 ped.), *Spruce*, n. 198; Chimborazo.

Caulis 3-linearis. Folia superiora lineam longa, luteo-viridia, inferiora breviora. Pedunculus 4–6-linearis.

Species inter affines nervo in foliorum apicibus crassiusculo excurrente distinguitur.

45. T. LÆTA (*Kunze, C. Müll. Syn.* i. 574). Gregarie cæspitosa, simplex, basi innovatione fœminea longiore flexuosa, gracillima, subremotifolia, divisa, subhumilis, læte viridis. Folia omnia parva erecta, sicca tortilia, inferiora obtusiora, superiora magis acuta, ubique quadrate, sed inferne magis rectangulari-areolata, leptoderma, nervo subtenui ante apicem concavum subreflexum evanido flavido, dorso sublævia; perichætialia longiora; omnia margine flexuosa subinvoluta. Theca in pedunculo

elongato gracillimo flexuoso purpureo erecta, cylindrica, subæqualis, angusta, exannulata, fusca, operculo conico longirostrato obliquo; peristomii dentes in conum congesti, breviusculi, tenerrime subulati, angusti, intense purpurei, rugulosi, basi in membrana breviter exserta positi, in crura duo laxius cohærentia fissi.—*C. Müll. l. c.*

Hab. Chili australis, in terra limosa, *Pœppig.*

46. T. FUSCA (*C. Müll. Syn.* i. 610, Barbula). *T. gracili* simillima, sed folia perichætialia caulinis simillima, intima basi laxius areolata, omnia e cellulis multo densioribus firmioribus inanibus diaphanis areolata, latiora, annulo simplici prædita.—*C. Mull. l. c.*

Hab. Chili, ad Talcahuano, *Pœppig.*

47. T. TERETIUSCULA (*Schimp.*; *C. Müll. Syn.* i. 614, Barbula). Dioica; dichotome ramosa, ramis siccitate teretibus; folia conferta, erecta, sicca imbricata, margine basin versus reflexa; perichætialia late lanceolata subvaginantia, nervo apice evanido. Theca ovali-oblonga, erecta, annulo simplici angusto, operculo rostrato theca breviore, peristomio semel torto. —*C. Müll. l. c.*

Hab. Mexico, ad montem Orizaba, *Liebmann.*

T. gracili proxima magnitudine quam habitu et colore, thecæ forma et peristomii torsione, foliis tamen brevius acuminatis, nec in subulam abeuntibus, siccitate arcte imbricatis annulo latiore constanter distincta.—*C. Müll. l. c.*

48. T. LÆVIGATA (*Mitt.*). Cæspitosa; caulis elatus, ramosus. Folia erecto-patentia, sicca appressa, nervo percurrente dorso lævi carinata, marginibus inferne reflexis integerrimis, cellulis basilaribus in medio folio paucis oblongis brevibus, inde ad apicem usque rotundatis granulosis, interstitiis pellucidis lævibus; perichætialia inferne latiora convoluta, sensim subulato-angustata, pedunculus elongatus, ruber. Theca cylindracea, operculo dimidio breviore; peristomium elongatum, tortum.

Hab. Andes Quitenses in monte Cordovasto (11,000 ped.), *Spruce,* n. 199; Chimborazo (10,000 ped.), *Spruce,* n. 200.

Caulis 2–4 uncias altus. Folia rubiginosa. Pedunculus uncialis.

Habitu *T. fallaci* Europæ similis sed robustior.

49. T. GRAMINICOLOR (*C. Müll. Syn.* i. 611, Barbula). Laxe cæspitosa, erecta, subhumilis, gracilis, e perichætio sæpe semel vel bis prolifera, e cæteris simplex, amœne viridis. Folia erecto-tortilia, madefacta erecto-patentia stricta, inferiora minora remota, superiora confertiora subcomantia, e basi erecta tenerrime reticulata pellucida recurva, margine integerrima supra basin parum revoluta, minute areolata opaca, tenuiter papillosa, nervo tenui excurrente viridi; perichætialia basi teneriora laxiora. Theca in pedunculo longo rubro stricto tenui erecta, oblongo-cylindrica, subcurvata, pallida, dein fuscescens, operculo conico-subulato obliquo, annulo simplici angustissimo persistente, peristomio longo plu-

ries contorto ad basin usque fisso pallide fusco læviusculis.—*C. Müll. l. c.*

Hab. Chili, ad terram in locis umbrosis prope Racangua, *Bertero.*

Planta mascula gracilior, flore terminali, innovando dein laterali gemmaceo.—*C. Müll. l. c.*

50. T. SUBULIFOLIA (*Sulliv. in Proc. Amer. Acad.* 1861). Dioica; caulis humilis. Folia erecto-patentia subsecundave, apice obtusiuscula, denticulata integerrimave nervo crasso percurrente carinata, marginibus inferne angustissime recurvis, cellulis basi oblongis pellucidis, superioribus obscuris rotundatis; perichætialia erecta, parum longiora, dimidio inferiore ovali subpellucido, superiore anguste subulato obscuro. Theca in pedunculo rubro, oblonga, erecta, operculo subulato æquilongo; peristomium elongatum, tortum.

Barbula gracilis, *Sulliv. l. c.*

Hab. Ins. Cuba, ad rupes humidas in rivulis montanis, *Wright*, n. 32 et 27; Demerara, *Parker*; Andes Quitenses, in rivulo Batcun montis Tunguragua (6000 ped.), *Spruce*, n. 180; in scopulis fl. Bombonasa inundatis (1200 ped.), *Spruce*, n. 181; etiam ad rivulum Lligua (7000 ped.), *Spruce*, n. 181 *c.*

Caulis ¼–1½ unciam altus, gracilis. Folia lineam longa, viridia. Pedunculus 4 lineas longus. Theca ½–1 lineam longa, leptoderma.

51. T. INUNDATA (*Mitt.*). Dioica; caulis brevis. Folia patentia, apicibus subincurvis, inferiora ovato-lanceolata acuta, superiora obtusiuscula, nervo concolori sub apice evanido dorso scabro, marginibus in medio folio recurvis, cellulis basilaribus quadratis, superioribus rotundatis, omnibus subpellucidis papuloso-tumidulis; perichætialia caulinorum longitudinem haud excedentia, ovato-oblonga, obtusa, patula, inferne subconvoluta. Pedunculus rufus. Theca cylindracea, operculo conico acuminata, curvata, peristomio nullo.

Hab. Andes Quitenses; in monte Guarapata (9000 ped.), *Spruce*, n. 216; in monte Tunguragua in rupibus tophaceis riv. Baccun (7000 ped.), *Spruce*, n. 217; Baños (6000 ped.) in rupibus, *Spruce*, n. 218; in fontibus calidis (6000 ped.), *Spruce*, n. 219; in fl. Pastasa saxis inundatis (5000 ped.), *Spruce*, n. 220; Brasilia, Monte Video, *Gibert*, n. 679, *in Herb. Hooker.*

Caules longitudine 3 lineas ad unciam metientes. Folia sordide viridia, rufescentia. Pedunculus ½-uncialis. Theca parva.

52. T. GENICULATA (*Mont. in Ann. Sc. Nat.* ser. 3. iv. 107, Barbula). Humilis, pallide ferruginea, ramis brevibus paucis dichotome divisa, apice densius foliosa. Folia caulina sicca et madefacta stricta, haud tortilia; brevia, vix recurva, obtusiuscule acuta, e cellulis basi laxis teneris pellucidis medio folii minoribus depresso-hexagonis diaphanis apice magis incrassatis rotundatis fuscidulis areolata, integerrima, margine erecto v. parum reflexo, nervo excurrente rufescente, canaliculata; perichætialia

similia, intima basi teneriora. Theca in pedunculo mediocri rubro erecta, ovata, minuta, simpliciter annulata, badia, operculo conico duplo breviore, peristomio in membrana brevi parce contorto ruguloso.—*C. Müll. Syn.* i. 620.

Hab. Chili, prope Valparaiso, *C. Gay.*

53. T. HUMIDA (*Mitt.*). Caulis brevis. Folia a basi erecta, ad insertionem paululum angustiora, cauli appressa, patentia, nervo dorso scabro sub summo apice desinente, marginibus totius partis patentis recurvulo-planis, cellulis basilaribus oblongis pellucidis, exinde superioribus quadratis minoribus obscuris papillosis; perichætialia comalibus longiora, inferne latiora, apicibus patulis obtusis. Pedunculus rufus. Theca cylindracea, operculo conico acuminato; peristomium nullum.

Hab. Andes Quitenses, Carguairazo, *Spruce*, n. 223.

Caulis lineam altus. Folia in comam congesta.

54. T. STENOCARPA (*Hampe in Ann. Sc. Nat.* ser. 5. iii. 346, Barbula). Subhumilis, laxe cæspitosa, olivaceo-viridis, caulis superne diviso-ramosus, ramis brevibus subfastigiatis. Folia canaliculata, margine reflexo integerrima, inferiora breviora, superiora elongato-lanceolata obtusiuscula, humida patentia, superiora recurva, sicca inflexa tortilia, cellulis basilaribus quadratis hyalinis, intermediis rotundatis papillatis, supremis densioribus subopacis, nervo crasso flavescente ad apicem producto. Seta gracilis, rufo-fusca, erecta. Theca anguste elliptico-cylindrica, operculo subulato-elongato, peristomio longissimo, dentibus didymis flavidis glabris pluries tortis; calyptra fuscata, lævis, basi pallidior.

Hab. Andes Bogotenses, La Penna (2800 metr.), in terra umbrosa, *Lindig.*

B. fallaci affinis, theca angusta et operculo aciculari satis diversa.—*Hampe, l. c.*

55. T. ÆNEA (*C. Müll. Syn.* ii. 628, Trichostomum). Caulis humilis, dichotomus. Folia a basi erecta patentia, lanceolato-linearia, sensim angustata, apice obtusa, apiculo brevissimo angusto, margine apice parce dentata, inde fere ad basin usque reflexa, integerrima, nervo percurrente dorso papilloso, cellulis in parte erecta oblongis pellucidis, superioribus parvis rotundis obscuris; perichætialia interna oblonga, acuminata, pellucidiora. Theca in pedunculo elongato, cylindracea, elongata, recta vel subarcuata, peristomii dentibus brevissimis in membrana pallida impositis. Flos masculus in innovatione terminalis.

Hab. Mexico, Pico de Orizaba, *Liebmann*; America centralis, Guatemala, Volcan del Fuego, *Godman et Salvin.*

Caulis ½ unciam altus. Folia 1½-linearia, obscure viridia rufescentia.

T. rubellæ simillima, sed robustior.

56. T. JAMESONI (*Tayl. in Hook. Lond. Journ.* v. 48). Caulis cæspitosus, elongatus, ramosus. Folia nervo in apiculum brevissimum excurrente canaliculata, a basi subquadrata amplexante erecta, cellulis elon-

gatis pellucidis papillis minutis punctatis, patentia, sensim angustata, cellulis rotundatis papillosis obscuris, marginibus inferne reflexis superne serrulatis; perichætialia subduplo longiora, suberecta, angustiora, cæterum et areolatione caulinis similia. Pedunculus elongatus, ruber. Theca cylindracea, erecta, subinæqualis, operculo oblique subulato, peristomii dentibus brevibus basi breviter coalitis.

Hab. Andes Quitenses, Pichincha, *Jameson,* et secus rivulos (10,500 ped.), *Spruce,* n. 189; Pangor, Cordillera occid. (10,000 ped.), *Spruce,* n. 191, et Llalla (9000 ped.), *Spruce.* n. 192; Guayrapata (9000–10,000 ped.), *Spruce,* n. 31 *b*.

Caulis 2–3-uncialis, laxe cæspitosus. Folia laxe inserta, 2 lineas longa, omnia rubiginosa, sicca incurva contorta. Pedunculus ¾ unciam longus. Theca 1½–2 lineas longa.

57. T. ARCUATA (*Mitt.*). Gregaria, cæspitosa. Folia a basi erectiore subquadrata, cellulis interioribus oblongis pellucidis, exterioribus firmioribus coloratis, patentia, nervo brevissime excurrente carinata, marginibus apice serrulatis, inferne præcipue uno latere reflexis, cellulis rotundatis obscuris papillosis; perichætialia longiora, inferne late oblonga convoluta, subito subulato-angustata, apicibus latiusculis acutis serrulatis. Pedunculus elongatus, ruber. Theca cylindracea, inclinata, valde arcuata, operculo elongate conico, peristomii dentibus brevibus rubris, in membranam brevissimam coalitis, haud tortis.

Syrrhopodon Jamesoni, *Tayl. in Hook. Lond. Journ.* vi. 331.

Trichostomum campylocarpum, *C. Müll. Syn.* ii. 628.

Hab. America centralis, Costa Rica, *Œrsted*; Mexico, *Liebmann*; Andes Quitenses, in monte Pichincha, *Jameson*; Chimborazo (9000–10,000 ped.) ad fl. Pastasa, Baños (6000 ped.), Leito et Cusatagua (8000 ped.), *Spruce,* n. 31. Andes Novo-Granatenses, in descensu a Paramo ad Choachi, *Weir* (fragmenta); Bogota, *Lindig.*

Caulis 3–12 lineas altus, subsimplex. Folia lineam longa, omnia rubiginosa, sicca contorta. Pedunculus 9 lineas longus. Theca linearis.

58. T. CHIMBORAZENSIS (*Mitt.*). Dioica, cæspitosa; caulis gracilis, elatus. Folia laxa, a basi brevi erecto-appressa patentia, nervo rufo in mucronem brevem producto, marginibus ad basin partis patentis anguste recurvis, superne erectis erosis, apice dentatis, cellulis in basi erecta elongatis angustis pellucidis, superioribus obscuris papillosis; perichætialia longiora, a basi erecta elliptica, latiora, convolutacea, subulata, undulata. Pedunculus gracilis, ruber. Theca cylindracea, peristomio brevi subtorto.

Hab. Andes Quitenses, in monte Chimborazo, *Jameson.*

Caulis uncialis altiorque. Folia lineam longa, dissita, fusco-rubiginosa. Pedunculus 7–8 lineas longus.

59. T. SERRULATA (*Hook. et Grev. in Brewst. Edinb. Journ.* i. 291, t. 12). Cæspitosa. Folia a basi erecta, breviter oblonga, cellulis inte-

rioribus elongatis hyalinis tenerrimis, exterioribus ad margines firmioribus pallide fuscis areolata, patentia, canaliculata, cellulis rotundatis obscuris, nervo brevissime excurrente, marginibus superioribus serrulatis, inferioribus reflexis; perichætialia elongata, erecta, anguste elliptica, pallida, superne subulata, acuta. Theca in pedunculo rubro, cylindracea, subinæqualis; peristomium usque ad medium coalitum.

Hab. Fuegia, Terra del Fuego, *Dickson, in Herb. Hooker.*

Caulis ½-uncialis. Folia 1½ lineam longa, omnia rubiginosa, sicca contorta. Pedunculus 4–5 lineas longus. Theca 1½ lineam longa.

60. T. ELONGATA (*Wils.*; *Mitt. in Hook. Kew Journ.* iii. 51). Dioica; caulis innovationibus ramosus. Folia nervo in acumen brevissimum excurrente, a basi subquadrata erectiore cellulis elongatis angustis pallidis areolata, patentia, canaliculata, cellulis minutis papillis minutis obtectis fere opacis, marginibus inferioribus anguste reflexis, apice subserratis; perichætialia duplo longiora, erecta, elongato-elliptica, pallidiora, superne subulata. Pedunculus elongatus. Theca longe cylindracea, arcuata, operculo subulato thecæ longitudinis ⅓ æquante; peristomium tortum, dentibus basi in membranam brevem coalitis.

Hab. Andes Quitenses, in summo monte Pichincha, *Jameson.*

Caulis 1–1½-uncialis. Folia vix lineas 2 longa, omnia rubiginosa, sicca appressa contorta. Pedunculus unciam longus. Theca 3-linearis, operculo lineam longo.

61. T. SUBNIGRA (*Mitt.*). Folia a basi brevi subquadrata, superne latiora, erecta, cellulis inferne oblongis pellucidis areolata, patenti-recurva, nervo brevissime excurrente, marginibus inferne anguste reflexis, superne serrulatis, cellulis rotundatis papillis obscuris; perichætialia duplo longiora, erecta, late elliptica, convoluta, pallidiora, superne subulata.

Hab. Mexico, *Humboldt*, inter *Glyphomitrium rugosum.*

Caulis ½-uncialis. Folia 1½ lineam longa, omnia rubiginosa, sicca appressa curvata.

II. SYNTRICHIÆ.

Sect. 8. *Desmatodon*, Brid. i. 523.

Musci humiles. Folia acuminata vel obtusa, nervo excurrente. Thecæ in pedunculis brevibus vel elongatis, peristomii dentibus 16 subintegris vel in 32 filiformes divisis, rectis vel tortis, interdum nullis. *Habitatio* ad terram.

62. T. SUBSESSILIS (*Brid.* i. 113, Schistidium). Caulis brevis. Folia imbricata, inferiora orbiculata excavata nervo breviter excurrente, superiora late ovalia minus excavata concava, nervo intus lamellis latiusculis alato, in pilum hyalinum elongatum brevissime denticulatum excurrente, marginibus apice minute serrulatis, cellulis inferioribus oblongis pellucidis parietibus tenerrimis, superioribus rotundatis obscuriusculis. Theca im-

mersa, subgloboso-cyathiformis, operculo acuminato; calyptra infra basin operculi descendens, 4–5-fida.

Hab. Andes Chilenses, Mendoza, *Gillies.*

Caulis lineam altus. Folia sordide viridia.

63. T. PUSILLA (*Hedw. Fund.* ii. 32, Gymnostomum). Monoica; caulis brevis. Folia erecto-patentia, obovato-oblonga, obtusa, superne excavata, nervo intus superne late lamellato, in pilum diaphanum excurrente, dimidio inferiore cellulis teneris hyalinis oblongis, superiore cellulis quadratis viridibus. Theca in pedunculo brevi, ovalis, castanea, operculo subulato; peristomium si adsit tenerrimum, dentibus irregularibus, basi in membranam brevem coalitis.

Pottia cavifolia, *Ehrh. Bryol. Europ.* Pottia, t. 2.

Hab. Andes Quitenses, Mendoza, *Gillies.*

Caulis lineam altus. Folia lineam longa, e viridi fusca. Pedunculus 1½-linearis, interdum longior. Theca etiam in statu peristomato pedunculo longior ut mos generis est.

64. T. ATROVIRENS (*Sm. Eng. Bot.* t. 2015, Grimmia). Monoica; caulis brevis. Folia superiora patenti-incurva, oblonga, acuta, canaliculata, nervo crasso supra medium intus breviter lamellato excurrente, marginibus reflexis, cellulis inferioribus quadratis pellucidis, superioribus minoribus granuloso-obscuris. Theca in pedunculo luteo, ovalis cylindraceave, erecta, operculo conico obliquo, peristomii dentibus inæqualibus papillosis, basi in membranam brevem coalitis.

Trichostomum Schimperi, *Mont. in Ann. Sc. Nat.* ser. 3. iv. 103.

Didymodon nervosus, *Hook. et Tayl. Muscol. Brit.* i. 66.

Hab. Andes Chilenses, Mendoza, *Gillies*; etiam in Chili, *ex Herb. Montagne.*

Caulis lineam altus. Folia ¾ lineam longa, viridia fuscave. Pedunculus 2–3-linearis altiorque.

The description, C. Müll. Syn. i. 590, appears to relate to some very different moss.

65. T. HEIMII (*Fuernr. Bryol. Europ.* t. 7, Pottia). Polygama; caulis brevis. Folia patentia, superiora spathulato-elliptica, acuminata, serrulata, nervo fusco percursa, cellulis basilaribus elongatis angustis pellucidis, superioribus quadrato-rotundis granuloso-obscuris. Theca in pedunculo elongato, oblonga, obovata truncatave, operculo subulato post fructus dehiscentiam ad apicem columellæ adhærente persistente; calyptra fusca, lævis.

Hab. Andes Chilenses, Mendoza, *Gillies*; Magellan, Hermite Island, *J. D. Hooker*; Cabo Negro, *Lechler*, n. 1091, 1213 (*Pottia magellanica*, Schimp.); Sandy Point, *Lechler*, n. 1199 (*P. antarctica*, Schimp.).

Huic theca longior et pedunculus crassior; forsan species diversa.

66. T. FLAVISETA (*Mont. in Ann. Sc. Nat.* ser. 3. iv. 122, Pottia). Monoica; cæspitosa, radiculis permultis intertexta, subsimplex, inno-

vando-ramosa. Folia laxe imbricata, erecto-patentia, late oblongo-lanceolata, elongata, longe acuminata, nervo tenui flexuoso ferrugineo evanido, apice paucissime dentata, margine haud revoluta, basi e cellulis laxissimis elongate hexagonis tenerrimis pellucidis superne minoribus rotundato-hexagonis pellucidis lævibus reticulata. Theca in pedunculo elongato flavido superne purpurascente recto, minute obconica, deoperculata, turbinata, truncata, macrostoma, operculo convexo-conico oblique rostrato, columellæ tandem liberæ exsertæ adhærente.—*C. Müll. Syn.* i. 552 (Pottia); *C. Gay, Hist. Chil. Crypt.* t. 3. f. 2.

Hab. Chili ad terram, *C. Gay.*

Flos masculus in ramo brevi infra florem fœmineum posito terminalis, foliis perigonialibus caulinis similibus. *P. Heimii* proxima.—*C. Müll. l. c.*

67. T. MEXICANA (*Hampe*; *C. Müll. Syn.* i. 554, Pottia). Monoica; habitus *T. eustomæ β majoris.* Folia caulina subspathulata, e basi oblonga laxe reticulata sensim ovata, dilatata, nervo crasso in cuspidem producto, e cellulis amplis teneris chlorophyllosis mollibus hexagonis areolata, integerrima, margine parum revoluta, concava, paullo flexuosa, lævia. Theca in pedunculo brevi rubro erecta, brevis, maxime truncata, turbinata, ampla, physcomitroidea.—*C. Müll. l. c.*

Hab. Mexico.

T. eustomæ β majori simillima, thecæ forma primo adspectu differt, a *T. flavipede* simili pedunculis brevioribus, foliis integerrimis firmioribus et theca ampliore distat.—*C. Müll. l. c.*

68. T. MACROCARPA (*Schimp. in Ann. Sc. Nat.* ser. 2. vi. 145, t. 8, Pottia). Monoica; caulis brevis, subramosus. Folia ovato-lanceolata, terminalia majora, concava, integerrima, margine haud revoluta, nervo sub apice evanido, erecto-patentia, sicca incurva, laxe hexagono-areolata. Theca exserta, magna, subsphærica, brevicolla, operculo plane convexo umbonato.—*C. Müll. Syn.* i. 556.

Hab. Chili, prope Valparaiso, in terra lutoso-arenaria, *Bertero.*

69. T. MURALIS (*Linn. Sp. Pl.* Bryum). Monoica. Folia patentia, oblongo-ligulata, obtusa retusave, canaliculata, nervo crassiusculo plus minus longe excurrente apice diaphano, marginibus superne auguste reflexis apice subcrenulatis, cellulis inferne quadratis pellucidis, superioribus parvis rotundatis obscuris. Pedunculus elongatus. Theca erecta, cylindracea, operculo subulata; peristomium tortum, membrana basilari angustissima.

Hab. Andes Chilenses, Mendoza, *Gillies.*

70. T. MURICOLA (*C. Müll. in Bot. Zeit.* 1857, 384, Barbula). Monoica, *T. murali* simillima, sed folia magis oblonga, e cellulis basi multo rigidioribus apicem versus magis opacis areolata, margine revoluto, cellulis majoribus firmis incrassatis fusco coloratis late limbata. Theca anguste cylindrica, peristomio sinistrorsum contorto profunde fisso.

Hab. Brasilia, ins. Sancta Catharina, locis umbrosis ad muros prope Desterro, *Pabst.*

71. T. ACUMINATA (*Sw. Fl. Ind. Occid.*). Monoica? caulis cæspitosus, brevissimus. Folia patentia, subspathulato-ligulata, acuta acuminatave, caviuscula, nervo crassiusculo percursa, limbo e cellularum seriebus circiter tribus longioribus minus obscuris lutescentibus marginata, superne cellulis rotundatis obscuris infra folii medium elongatis pellucidis. Theca in pedunculo elongato, cylindracea, erecta, operculo subulato; peristomium longitudine thecam dimidiam æquans, dentibus fere ad basin usque liberis.

Barbula marginata, *Bruch et Schimp. Bryol. Europ.* Barbula, t. 19.

Hab. Ins. Indiæ occidentalis, *Swartz.*

Caulis lineam altus. Folia lineam longa, luteo-viridia. Pedunculus 4½ lineas longus, ruber.

72. T. AGRARIA (*Sw. Fl. Ind. Occid.* iii. 1763; *Hedw. Musc. Frond.* 3, t. 6). Cæspitosa; caulis brevissimus. Folia patentia, superiora majora, lanceolata, acuta, caviuscula, nervo concolori excurrente, marginibus erectis, cellulis inferioribus oblongis pellucidis subfuscis tertiam partem folii longitudinis occupantibus, superioribus parvis quadrato-rotundis obscuris. Theca in pedunculo elongato rubro, cylindracea, erecta, castanea, sicca plicata, operculo subulato; peristomium elongatum, dentibus ad basin usque liberis.—*Dozy et Molk. Prod. Fl. Bryol. Surin.* t. 8.

Hab. Ins. Jamaica, *Heward, Wilson*; St. Thomas, *Breutel*; Cuba, *Wright,* n. 28; in Surinam, *Herb. Dozy et Molkenboer.*

Caulis 1½ lineam altus. Folia ¾ lineam longa, viridia. Pedunculus 4-linearis. Theca angusta, fere lineam longa. Peristomium longitudine thecæ ¾ æquans.

73. T. MNIIFOLIA (*Sulliv. in Proceed. Amer. Acad.* 1861, 277, Barbula). Dioica, gregaria, humilis. Folia patula, spathulato-oblonga, obtusa, planiuscula, nervo angusto fusco percursa, limbo cartilagineo fusco tereti marginata, cellulis inferioribus oblongis pellucidis, superioribus hexagonis rotundatis chlorophylloso-obscuris. Theca in pedunculo elongato, cylindracea, subinclinata, operculo conico obtuso; peristomium elongatum, dentibus basi brevissime coalitis.

Hab. Ins. Cuba, *Wright,* n. 33. Andes Peruvianæ ad Tarapoto in rivulorum ripis inundatis (2000 ped.), *Spruce,* n. 152, 153.

Caulis lineam altus. Folia 1½ lineam longa, obscure viridia. Pedunculus 6–8-linearis. Theca lineam, peristomium ½ lineam longum.

74. T. PLATYPHYLLA (*Mitt.*). "Dioica; cæspitosa, breviuscula, innovando-ramosa. Folia laxe imbricata, e basi plerumque subinvoluta, cellulis elongatis laxis pellucidis lævibus areolata, longa, elongate oblonga, obtusiuscula, inferiora apice emarginata, nervo autem in aristam brevem acutissimam flavidam producto, margine plus minus revoluta et valde flexuosa, integerrima, papillis tenuissimis aspera, supra basin minutissime opace areolata; perichætialia intima e basi angustissima longe subspathulata breviter mucronata, omnia basi laxissima tenerrima. Theca

in pedunculo longo purpureo recto, cylindracea erecta, fusca, annulata, operculo subulato obliquo; peristomii dentes in membrana brevi positi, breves, sinistrorsum subtorti, rugulosi, intense purpurei, binati, tenues."—*C. Müll.*

Trichostomum amblyophyllum, *C. Müll. Syn.* i. 592.

Desmatodon amblyophyllum, *Mont. in Ann. Sc. Nat.* ser. 3. iv. 108.

Hab. Chili, ad terram prope Valparaiso et S. Jago, *Gay.*

Trichostomo obliquo similis. Planta mascula multo ramosior, innovationibus masculis pluribus brevibus dense comosis. Folia perigonialia externa e basi late ovata concava tenera brevi-lanceolata concava obtuse acuta evanidinervia, pellucidius sed minute areolata, margine vix revoluta; interna late cordato-acuminata undique tenerrime reticulata colorata, nervo tenui evanido. Antheridia magna paraphysibus flavidis subacutis cincta.—*C. Müll. l. c.*

Sect. 9. *Zygotrichia*, Brid. i. 520.

Musci humiles. Folia sæpe limbo plus minus distincto marginata. Thecæ elongatæ, peristomio basi tubuloso. *Habitatio* ad terram.

75. T. LIMBATA (*Mitt. in Hook. Kew Journ.* iii. 354). Monoica, cæspitosa, fastigiatim ramosa. Folia patentia, inferiora inferne latiora subovalia, sensim superne angustiora, superiora ligulata acuta planiuscula, nervo flavo percursa, marginibus limbo latiusculo superne serrulato e cellulis elongatis angustis flavescentibus in seriebus circiter sex conflato circumdatis, cellulis superioribus papillis minutis densis obscuris, quadrato-rotundis, infra folii medium elongatis laxis pellucidis luteis. Theca in pedunculo elongato rubro, angusta, longe cylindracea, recta, operculo subulato theca dimidio breviore, cellulis inferioribus rectis superioribus in spiram vertentibus.

Gymnostomum Jamesoni, *Tayl. in Hook. Lond. Journ.* vii. 279.

Hab. Andes Quitenses, in summo monte Pichincha, *Jameson.*

Caulis ½ unciam altus. Folia 2–2½ lineas longa, fulvo-fusca. Pedunculus ½-uncialis. Theca 2-linearis.

T. densifoliæ Hook. f. et Wils. Crypt. Ant. t. 153. f. 1 similis, sed major.

76. T. DENTICULATA (*Wils.*; *Mitt. in Hook. Kew Journ.* iii. 50). Dioica, gregaria; caulis breviusculus. Folia patula, planiuscula, nervo in mucronem brevem excurrente, limbo e seriebus cellularum elongatarum circiter 4 flavo-fuscarum formato circumdata, superne denticulis serrulata, cellulis superioribus obscuris rhombeis subrotundisque, inferioribus oblongis pellucidis. Theca in pedunculo elongato, cylindracea, erecta, operculo subulato; peristomium theca dimidio brevius, usque ad medium in tubum conflatum.

Hab. Andes Quitenses, Quito, *Jameson*; Quito et monte Pichincha (10,000 ped.), *Spruce*, n. 151; Titaicun (10,000 ped.), *Spruce*, n. 154.

Caulis 1–3-linearis. Folia 2 lineas longa, viridia, inferne fulva fuscaque. Pedunculus 9-linearis. Theca 1½ lineam longa.

77. T. PERUVIANA (*Mitt.*). Dioica; caulis brevis. Folia inferiora minora, obovata, concava, obtusa, nervo in mucronem diaphanum excurrente, superiora nervo latiusculo breviter excurrente integerrima, cellulis inferne oblongis, superioribus rotundatis chlorophyllosis papillosis, marginalibus parum pellucidioribus. Theca in pedunculo rubro, cylindracea, operculo crasso dimidio breviore; peristomium elongatum, dentibus in tubum ad ¼ ejus longitudinis coalitis. Planta mascula minutissima, foliis obovatis mucronatis.

Hab. Peruvia, *Herb. Hooker*.

Species magnitudine habituque *T. agrariæ* similis, foliis autem latioribus, cellulis grossiusculis obscuris mollioribus.

78. T. CRENATA (*Mitt.*). Dioica?, caulis brevis. Folia inferiora erectiora, parva, oblongo-spathulata, obtusa, pilo brevi terminata, superiora patentia, acutiora vel breviter apiculata, marginibus recurvis cellulis prominentibus crenulatis, nervo infra apicem evanido, cellulis subquadratis parietibus angustis, inferioribus pellucidioribus parum longioribus. Theca in pedunculo rufo, cylindracea, operculo thecæ longitudinis tertiam partem metiente; peristomium longiusculum tortum, dentibus in tubulum perbrevem coalitis.

Hab. Andes Quitenses, *Jameson*.

Caulis lineam altus. Folia lineam longa. Pedunculus 5-linearis.

Statura *T. agrariæ* similis, sed structura foliorum *T. denticulatæ* affinior, limbus autem deest.

79. T. KUNZEANA (*C. Müll. in Linnæa*, xvii. 586, *Syn.* i. 630, Barbula). Dioica, humilis, gregaria. Folia patentia, nervo percursa, marginibus limbo latiusculo flavo-fusco circumdatis, cellulis superioribus obscuris parvis, inferioribus elongatis pellucidis. Theca in pedunculo elongato, cylindracea, recta, operculo subulato, peristomium longitudinis thecæ ⅔ æquante, dentibus fere ad apicem usque in tubum coalitis.

Hab. Chili australis, Antuco, in argillosis, *Pœppig*.

Caulis 1–2 lineas altus. Folia 1½ lineam longa, subglauco-viridia. Pedunculus 6–7-linearis. Theca lineam longa.

80. T. CONTORTA (*Hampe*; *C. Müll. Syn.* i. 629, Barbula). Gregaria, erecta, simplex, subgracilis. Folia sicca et madefacta laxe imbricata, solitaria, spiraliter incumbentia, maxime complicata, plicata, ubique e cellulis diaphanis laxis majusculis, sed inferne majoribus perfecte pellucidis lævibus, superne papillis tenuissimis punctulatis reticulata. Theca in pedunculo longo stramineo-rubente erecta, oblongo-cylindracea, subcurvata, operculo acuto subulato, annulo composito adhærente, peristomio breviter tubuloso compluries contorto longo albido.—*C. Müll. l. c.*

Hab. Chili, *Bertero*.

T. Kunzeana haud dissimilis.—*C. Müll. l. c.*

81. T. QUITOENSIS (*Tayl. in Hook. Lond. Journ.* vi. 332). Dioica; humilis. Folia patentia, superiora infra medium constricta, acuta, marcescentia, fragillima, nervo fusco infra apicem evanido, marginibus integerrimis vel cellulis prominentibus subcrenulatis, cellulis fere ubique pellucidis, inferne oblongis, superne quadrato-rotundis lævibus. Theca in pedunculo elongato rubro cylindracea, recta, operculo subulato; peristomii dentes basi in tubum coaliti.

Hab. Andes Quitenses, *Jameson*; in monte Chimborazo, ad saxa terramque, sterilis, *Spruce.*

Caulis ½–¾ unciam altus. Folia 2½ lineas longa, juniora viridia, seniora ferrugineo-fusca, flaccida, facillime diffracta. Pedunculus uncialis. Theca 1½ lineam longa.

Sect. 10. *Syntrichia,* Brid. i. p. 578.

Musci caulibus in cæspites pulvinatos congestis, sæpius altioribus. Folia obscura, sæpe hyalino-pilifera, ætate fusca vel ferruginea, perichætialia inconspicua. Thecæ elongatæ, strictæ vel arcuatæ. *Habitatio* ad saxa arboresque, interdum in terram.

82. T. PRINCEPS (*De Not.*). Caulis elongatus, ramosus. Folia patentia, oblongo-ligulata, obtusa acutave, nervo rufo in aristam denticulatam diaphanam excurrente, marginibus integerrimis inferne anguste reflexis, cellulis inferioribus hyalinis tertiam folii longitudinis occupantibus, superioribus rotundatis obscuris. Theca in pedunculo elongato, cylindracea, erecta, subarcuata, operculo subulato; peristomium thecam dimidiam longitudine æquans, inferne usque ad medium in tubum coalitum. Antheridia uno latere floris segregata.

Barbula Muelleri, *Bruch et Schimp. Bryol. Europ.* Barbula, t. 28.

Hab. Chili, *Lobb.*

Caulis ½–2 uncias altus. Folia fere 2-linearia, inferne fulva rubiginosa, superne viridia, siccitate appressa subtorta. Pedunculus 6–8-linearis. Theca 1½–2 lineas longa.

83. T. ANDICOLA (*Mont. in Ann. Sc. Nat.* ser. 2. ix. 53; *C. Müll. Syn.* i. 643, Barbula). Dense cæspitosa, compacta, tomentosa, elongata, innovationibus terminalibus elongatis binis divisa, inferne maxime ferruginea, apice pallide virescens. Folia caulina inferiora sicca, laxe appressa, superiora flexuoso-subtorta, e basi laxe hexagona maxime pellucida encalyptacea, superne concava, nervo crasso intense purpureo in pilum hyalinum rufescentem dentatum producto, margine ubique revoluto apice dentato, grosse hexagone areolata, papillis grossis in utraque pagina creberrimis opaca scaberrima; perichætialia minora, longe pilifera. Theca in pedunculo brevi inter innovationes posito atro-rubente subarcuato erecta, elongate cylindrica, angusta, falcato-arcuata, brevicolla, pallida, dein fuscescens, operculo longe subulato recto, annulo simplici persistente;

peristomii dentes basi liberi, albidi, dein vix rufescentes, semel torti, rugulosi; columella longe exserta; calyptra longissima, purpurea.—*C. Müll. l. c.*

Hab. In declivibus orientalibus Andium de la Paz, prope nives alternas, longe supra oppidum Tajesi, ad terram inter rupes, *D'Orbigny*; Columbia, Sierra Nevada de Merida, *Moritz*, n. 187 *a*.

84. T. DECIDUA (*Mitt.*). Caulis elatus, ramosus. Folia inferne pellucide areolata, patentia, canaliculata, in ramorum apicibus glauco-viridia, inferiora rufescentia, fragillima, nervo rufo in mucronem pauci-denticulatum excurrente, cellulis basilaribus oblongis elongatisque, superioribus parvis rotundatis subobscuris papillosis; perichætialia inferne latiora. Theca in pedunculo rubro elongato, cylindracea, arcuata, operculo subulato thecam dimidiam longitudine æquante, peristomii dentibus elongatis contortis ad basin usque liberis.

Hab. Andes Quitenses, Pichincha (10,000–11,000 ped.), *Spruce*, n. 146. Andes Bogotenses ad viam inter Tipaquira et Pacho, ad ramos arborum humiliorum (8000 ped.), *Weir*, n. 127, etiam in sylvis prope Pacho (8000 ped.), *Weir*, n. 289.

Caulis 2–3 uncias altus. Folia rarissime integra, sed fere omnia medio diffracta.

85. T. GOUDOTII (*Hampe in Ann. Sc. Nat.* ser. 5. iii. x. 350, Barbula). Dioica, dense cæspitosa, elongata, biuncialis, basi ferrugineo-tomentosa, fusco-viridis, subconcolor; caulis erectus, apice diviso-ramosus, fastigiatus. Folia inferiora erecto-patentia, planiuscula, pilifera, margine revoluta, superiora accumbentia erecta, parum flexuosa, longius acuminata, nervo rufescente percursa, pilo hyalino dentato coronata, cellulis basilaribus laxis, oblongo-quadratis, hyalinis, latere intense aureis, in lamina superiore dense aggregatis angulato-rotundatis parce papillosis rufescenti-opacis, in acumine hyalino elongatis; folia perichætialia subconformia. Seta erecta, uncialis. Theca cylindrica, curvata, ore rubro notata, operculo conico-subulato flavescente, peristomii dentibus subulatis flavidis sub lente griseis lævioribus pyramidato-conniventibus parce contortis; calyptra fuscata.

Hab. Andes Bogotenses, Tolima, ad truncos, *Goudot*, n. 37.

T. affini proxima, sed differt caule elatiore, inferne ferrugineo-tomentoso, foliis piliferis (nec fragilibus) et structura interna. Ab *T. andicola* Mont. foliis lævioribus nec scaberrimis et seta longiore et peristomio diversa. —*Hampe, l. c.*

86. T. BOGOTENSIS, *Hampe in Ann. Sc. Nat.* ser. 5. iii. 349, Barbula). Dense cæspitosa, tomento fusco connexa, adscendenti-erecta, rigida, subfastigiata, fusco-viridis, elatior; caulis diviso-ramosus, attenuatus, tomento interrupto, foliatus, striatus. Folia caulina fragillima, carinato-concava, basi hyalina integerrima, humida patula, sicca complicato-inflexa crispata, cellulis basilaribus elongato-quadratis hyalinis, versus apicem folii decrescenti-abbreviatis, tandem condensatis angulato-rotundatis papillosis griseo-viridibus transparentibus, nervo lutescente versus apicem

attenuato in aristam parce dentibus hyalinis adauctam producto; perichætialia subconformia, evidenter pilifera. Seta caule brevior, flava, fere uncialis, erecta. Theca e basi parum obliqua elliptico-cylindrica, brunnescens, nitida; operculo subulato, fere dimidiam thecam metiente; peristomii flavidi dentibus gracilibus nodulosis, usque ad basim partitis, parce contortis; calyptra intense rufescens, apice fuscata lævis.

Hab. Andes Bogotenses, Guadelupe (2900 metr.), in nemoribus, *Lindig.*

"*Barbulæ piliferæ* Hook. (Musc. Exot. t. 12) affinis et, cum *B. crinata* Schimp. et *B. tasmanica* nob., confertim fragilitate *B. fragili* Tayl. et *B. Trianæ* C. Müll. proxima."—*Hampe, l. c.*

87. T. TRIANÆ (*Hampe in Ann. Sc. Nat.* ser. 5. iii. 350, Barbula). Tomentosa, elata, mollis; caulis parce ramosus. Folia laxe imbricata, maxime fragilia, rufescentia, nervo purpureo crasso in aristam brevem rufescentem patulam denticulatum producto, folia margine supra basin paulisper revoluta, flexuosa, profunde canaliculato-concava, basi cellulis angustioribus quasi marginata, cellulis omnibus minoribus vel angustioribus, multo lævioribus quam in *Barbula andicola.* Theca in pedunculo torso erecta, cylindracea, elongata, subcurvata, longe subulato-operculata.

Hab. Nova Granada, *Triana.*

Ab *Barbula andicola* Mont. proxima diversa.—*Hampe, l. c.*

88. T. BREVISETA (*Mont. in Ann. Sc. Nat.* ser. 3. iv. 107; *C. Müll. Syn.* i. 644, Barbula). Dioica; humilis, subramosa. Folia sicca haud tortilia, non acuminata, canaliculata, margine incurvo recurvove, basi pellucida parallelogramme reticulata, a medio ad apicem patenti-recurva, obscure punctiformi-areolata, nervo crasso in pilum apice canum abeunte percursa. Theca lineari-cylindrica, longiuscula, cum operculo conico brevi pedunculum æquante; peristomii sat longioris et torti membrana basilaris angustissima, annulo nullo.—*C. Müll. l. c.*

Hab. Chili, in terra, circa S. Jago, *C. Gay.*

This species, as supposed by Müller, may belong to this group.

89. T. PROSTRATA (*Mont. Syll.* 40). Folia margine recurva, nervoque excurrente ad apicem denticulato, siccitate plicata, torta, tubo peristomii longissimo carneo $\frac{1}{3}$ caps. æquante, dentibus brevissimis semel tortis.—*Mont. l. c.*

Hab. Chili australis.

Montagne suspects C. Müller to be in error in referring this to *Streptopogon mnioides.*

90. T. FRAGILIS (*Tayl. in Hook. Lond. Journ.* vi. 333). Folia patenti-recurva, nervo in mucronem brevem excurrente carinata persæpe post laminæ destructionem persistente, marginibus superne papilloso-erosis, infra medium anguste recurvis, cellulis basi oblongis limitibus teneris hyalinis, superioribus minute papilloso-obscuris. Theca in pedunculo elongato pallido, cylindracea, erecta, arcuata, operculo subulato; peristo-

mium tertium thecæ longitudinis æquans, basi in tubum brevem ad $\frac{1}{6}$ usque ejus longitudinis coalitum.

Hab. Andes Quitenses, Quito, *Jameson.* Andes Bogotenses, Bogota, Los Laches et Fuquene (2700–2800 metr.), *Lindig, Weir.*

Caulis 1–2 uncias altus, inferne radiculosus. Folia $1\frac{1}{2}$ lineam longa, fere omnia siccando destructa. Pedunculus $\frac{1}{2}$-uncialis. Theca 2-linearis.

91. T. ACULEATA (*Wils.*; *Mitt. in Hook. Kew Journ.* iii. 51). Elata, parce ramosa, sordide virens, inferne rufescens. Folia imbricato-patentia recurvave, apicem versus serrata, nervo rubro, acumine undulato pallido. Pedunculi sæpe geminati. Theca cylindracea, peristomium basi in membranam brevem coalitum.

Hab. Andes Quitenses, *Jameson*; in Cordillera occidentali ad Pangor (9500 ped.), *Spruce*, n. 144.

Caulis robustus, interdum 4 uncias altus.

This probably belongs to *T. andicola*, with the description of which it agrees in most particulars.

92. T. GLACIALIS (*Kunze; C. Müll. Syn.* i. 634, Barbula). Dioica; dense cæspitosa, elata, robusta, innovando breviter fastigiate ramosa, rubiginoso-viridis, radiculosa. Folia inferiora appressa latiora ferruginea planiuscula, superiora flexuose subtorta viridia firma, nervo crasso rubente excedente rufo-mucronata, inferne margine revoluta, integerrima, basi cellulis elongatis laxis pellucidis mollibus reticulata, longiuscula, parum recurva, superne minutissime areolata opaca tenuissime papillosa; perichætialia intima angustiora. Theca in pedunculo perbrevi rubro crasso flexuoso, erecta, majuscule oblonga, rubens, operculo obtuse conico brevi recto, annulo lato composito, peristomio brevi tubuloso parum contorto; calyptra robusta, nitida, sordida, lævis.—*C. Müll. l. c.*

Hab. Andes Quitenses, in Cordillera occidentali ad El Puyal (1200 ped.), *Spruce*, n. 145. Chili australis, in monte Antuco (11,300 ped.), in summis rupibus inter glacies perpetuas, *Pœppig*, n. 272 (54).

Ex habitu *T. andicolæ* similis.—*C. Müll. l. c.*

93. T. SCABRINERVIS (*C. Müll. Syn.* i. 634, Barbula). Humilis, parce ramosa vel simplex, densifolia, viridis v. rufescens. Folia dense conferta et appressa, vix tortilia, brevia, erecto-patentia, basi ubique laxe pellucide et tenuiter reticulata, superne minute areolata, opaca, integerrima, margine medio folii reflexa, nervo crasso purpureo excedente dorso papillis hyalinis plerumque ciliiformibus interdum obsoletis scabro breviter apiculata. Theca in pedunculo breviusculo rubro flexuoso erecta, angustius cylindraceo-oblonga, operculo conico recto acuto, annulo simplici lato; peristomii angulosi membrana basilaris longiuscule tubulosa, tessellata.—*C. Müll. l. c.*

Hab. Chili australis, prov. Quillotæ in convalle "Los Chorillos" dicto, in truncis arborum, socia *Leskeæ seminervis* Kunze, *Pœppig.*

T. lævipilæ affinis.—*C. Müll. l. c.*

94. T. PICHINCHENSIS (*Tayl. in Hook. Lond. Journ.* vi. 333). Cæspitosa. Folia patentia, nervo rubro brevissime excurrente carinata, marginibus superne papilloso-erosis inferne reflexis, cellulis basilaribus oblongis pellucidis lævibus, superioribus rotundatis obscuris. Theca in pedunculo elongato, cylindracea, arcuata, operculo subulato; peristomium thecæ longitudinis $\frac{1}{3}$ æquans, tertia parte inferiore in tubum coalita.

Barbula affinis, *Hampe in Linnæa,* xxxi. 520.

Hab. Andes Quitenses, Chimborazo, *Jameson*; ibidem ad *Cactos* (10,000 ped.), *Spruce,* n. 148, et in loco San Andres, *Spruce,* n. 149; Titaicun, ad rivuli saxa (10,000 ped.), *Spruce,* n. 147; in monte Pichincha locisque aliis permultis (8000–10,000 ped.), *Spruce,* n. 150; Andes Bogotenses, ad viam inter Tipaquira et Pacho, ad arborum humiliorum ramos (2600 ped.), *Weir,* n. 209.

Caulis $\frac{3}{4}$–1 unciam altus. Folia $1\frac{3}{4}$ lineam longa, sordide viridia, rufescentia. Pedunculus 4-linearis. Theca angusta, $1\frac{1}{2}$ lineam longa.

95. T. OBTUSISSIMA (*C. Müll. Syn.* i. 640, Barbula). *T. rurali* simillima, sed folia squarroso-patula, latissime complicata, robustiora, basi vix erecta; vix v. parum pallide limbata, e cellulis laxissimis amplissimis pellucidis maxime foraminatis ubique conformibus reticulata, superne magis areolata, papillis grossis majoribus verrucosa, nervo in aristam maxime elongatam flavide hyalinam serratam producto. Theca in pedunculo longiusculo erecta, cylindrica, curvula, peristomio longe tubuloso, annulo duplici.—*C. Müll. l. c.*

Hab. Mexico, *C. Ehrenberg.*

96. T. FUEGIANA (*Mitt. in Journ. Linn. Soc.* 1859). Caulis humilis. Folia erecto-patentia, siccitate appressa, nervo in pilum flexuosum lævem excurrente, margine plus minus recurvo integerrimo, cellulis superioribus minutissimis rotundatis obscuris, a medio ad basim usque pallidioribus elongatis pellucidis; perichætialia latiora. Theca in pedunculo elongato rubro, cylindracea, curvata, operculo subulato, peristomio elongato dimidio inferiore tubuloso.

Hab. Fuegia, ad Cabo Negro, *Lechler,* n. 1088. Ins. Falkland, Uranie Bay, in collibus arenosis, *J. D. Hooker.*

Rubiginoso-viridis. Caulis $\frac{1}{2}$–1 unciam altus. Pedunculus uncialis.

A *T. rurali* et *T. principi* foliis ovatis facile discernenda.

97. T. PAPILLOSA (*Wils. in Hook. Lond. Journ.* iv. 192). Pulvinate cæspitosa, humilis. Folia patenti-incurva, obtusa acutave, nervo dorso scabro in mucronem diaphanum lævem excurrente, intus superne gemmas globulosas fovente, marginibus superioribus involutis, cellulis basilaribus oblongis subpellucidis, superioribus rotundatis obscuris, papillis brevibus. Theca in pedunculo brevi, cylindracea, erecta, operculo subulato, peristomium longitudine thecam dimidiam æquante, usque ad $\frac{1}{4}$ ejus longitudinis in tubo coalitum.

Hab. Andes Quitenses, ad Ambato et Tamante (8500 ped.), *Spruce,* n. 142. Tamante, *Spruce,* n. 143 (specimina omnia sterilia). Crescit etiam in ins. Falkland et per orbem terrarum regionibus temperatis.

Caulis 2–3 lineas altus. Folia lineam longa, viridia, fuscescentia. Pedunculus 2-linearis. Theca longitudine linearis.

98. T. ROBUSTA (*Hook. et Grev. in. Brewst. Edinb. Journ.* i. 239, t. 12). Caulis elongatus, ramosus. Folia inferne latiora erectiora, patula, recurva, canaliculata, nervo percursa, marginibus pallide flavidis apicem versus serrulatis medio reflexis, cellulis superioribus rotundis papillis parvis subobscuris, basilaribus elongatis angustis pellucidis lævibus. Theca in pedunculo elongato, cylindracea, subinclinata, operculo subulato, peristomium dimidium thecæ longitudinis æquans, inferne in tubum ad $\frac{1}{4}$ ejus longitudinis coalitum.

Hab. Fuegia, Hermite Island, *J. D. Hooker.*

Caulis 2 uncias altus. Folia 2-linearia, rufa. Pedunculus $\frac{3}{4}$-uncialis.

99. T. PUNCTULATA (*Brid.* ii. 734, Mnium). Caulis elongatus. Folia patentia, subacuminata, nervo percursa, margine apicem versus serrulata, cellulis inferioribus oblongis pellucidis, superioribus rotundatis vix obscuris.

Hab. Fuegia, Magellan, *M'Whinnie in Herb. Hook.*; ins. Falkland, *D'Urville.*

Caulis 2-uncialis. Folia 2-linearia, inferiora fusca.

Species ut videtur propria, primo adspectu *Mnio serrato* subsimilis.

35. Anœctangium, Hedw. Sp. Musc. i. 40.

Musci graciles, compacte cæspitosi, caulibus interdum elongatis. Folia parva, linearia vel lanceolata, cellulis parvis obscuris areolata; perichætialia parva, diversiformia, hyalina. Pedunculi graciles, breviusculi. Thecæ breviusculæ, orificio subtruncato, operculis longe oblique rostratis. *Habitatio* ad rupes.

Folia breviter lanceolata, acuta, margine subrepanda.	1. *A. æstivum.*
Folia a basi erecta latiore lanceolata, sensim acuminata.	2. *A. sordidum.*
Folia linearia, apice obtusiuscula, apiculo brevissimo terminata.	3. *A. euchloron.*
Folia oblonga, obtusa vel acuta	4. *A. tenerrimum.*
Folia linearia, acuta	5. *A. calidum.*
Folia anguste oblongo-lanceolata, brevia, obtusa....	6. *A. Lechlerianum.*
Folia inferne latiora, lineari-lanceolata, apice acuta obtusave.	7. *A. peruvianum.*
Folia linearia, basi parum latiora, apice acuminata acuta.	8. *A. andinum.*

1. A. ÆSTIVUM (*Hedw. Sp. Musc.* t. 11). Caulis gracilis. Folia patentia, parva, nervo valido dorso prominulo carinata, cellulis basi paucissimis subquadratis pallidioribus, superioribus parvis obscuris fere opacis; perichætialia a basi late ovali acuminata. Theca in pedunculo gracili luteo, ovalis, operculo oblique tenuissime rostrato thecæ longitudinem æquante.

A. euchloron, *Mitt. in Jameson's Musci.*

A. compactum, *Schwægr.* t. 11.

Hab. Andes Quitenses, in monte Pichincha et ad Esmeraldas in sylvis (8000 ped.), *Jameson,* Baños (6000 ped.), *Spruce,* n. 239 *b.*

Caulis ½–2-uncialis, gracilis. Folia juniora luteo-viridia, seniora fulva, ½-linearia; nervus si dorso respicias excurrentem diceres, si autem caute explanetur in apice ut in congeneribus evanescentem reperitur.

2. A. SORDIDUM (*Mitt.*). Gracile, fusco-viride. Folia patentia, apicibus subincurvis, sicca incurvata subtorta, nervo dorso papuloso, marginibus papillis prominulis erosis inferne uno latere reflexis, cellulis in basi erecta oblongis, superioribus minoribus rotundatis obscuriusculis papillosis; perichætialia a basi obovata subulata. Theca in pedunculo breviusculo obovata, ore magno, operculo curvirostro.

Hab. Andes Quitenses, in monte Chimborazo, *Jameson.*

Caulis 1–2 uncias altus, inferne radiculosus. Folia inferiora fusca, superiora fusco-viridia, ambitu inferne subelliptica, ad apicem acutum usque sensim angustata.

Ab *A. peruviano* foliis superne angustioribus et mollibus differt.

3. A. EUCHLORON (*Schwægr.* t. 176.). Laxe cæspitosum. Folia patentia, sicca crispatula, nervo dorso papillis aspero percurrente carinata, marginibus crenulatis, cellulis basilaribus paucis pellucidis quadratis, superioribus obscuris; perichætialia lato-ovalia, apiculata, convoluta. Pedunculus gracilis. Theca ovalis, operculo tenui subulato obliquo.

A. tenellum, *Mitt. in Jameson's Musci, in Hook. Lond. Journ. Bot.*

Hab. Ins. Trinidad, *Black.* Guatemala, Volcan d'Agua, *Godman et Salvin.* Andes Quitenses, Baños, in aggeribus umbrosis (6500 ped.), *Spruce,* n. 237.

Habitu magnitudineque *A. æstivo* simillimum, folia juniora viridia, seniora fusca basi haud dilatata.

4. A. TENERRIMUM (*C. Müll. in Bot. Zeit.* 1847, 801; *Syn.* i. 684). Densissime compactum, humile, lutescenti-viride, inferne sensim ferrugineum, zonatum; caulis tenerrime filiformis, innovando ramosus. Folia caulina minutissima parum torta, inferiora oblonga obtusa brevia minus opaca, nervo carinato ante apicem evanido, superiora et perichætialia longiora acuta, nervo subexcurrente, illa modo caulinorum integerrima, hæc basi latiora haud convolutacea, sed amplexicaulia laxius areolata ad medium tenuissime crenulata. Theca in pedunculo supra cæspitem longiuscule exserto tenuissimo flavido subinclinata v. recta, minutissima, ovalis, brevicolla, fuscescens, operculo conico subulato obliquo, calyptra minuta tenera.—*C. Müll. l. c.*

Gymnostomum laxifolium, *Kunze in Pœppig, Pl. Chil.* iii. n. 268 (53).

Hab. Chili australis, in truncis arborum et rupibus, ad Antuco, *Pœppig.*

5. A. CALIDUM (*Mitt.*). Folia patentia, siccitate appressa subtorta,

canaliculata, nervo percursa, cellulis basilaribus paucis oblongis, superioribus rotundatis papillosis obscuris; perichætialia ovalia, acuminata, convoluta. Theca in pedunculo gracili pallido, ovalis, operculi rostro tenui obliquo.

Hab. Andes Quitenses ad fl. Pastasa, in stillicidiis calidis (6000 ped.), *Spruce*, n. 238.

Caulis ½–1½ unciam altus. Folia juniora viridia, seniora rufescentia.

A. æstivo magnitudine simillimum, foliis autem dimidio angustioribus minus obscuris, papillis evidentioribus, et nervo vix dorso prominente differt.

6. A. LECHLERIANUM (*Mitt.*). Compacte cæspitosum; caulis elongatus. Folia erecto-patentia, nervo sub apice desinente carinata, marginibus erectis integerrimis, cellulis basi ad nervum paucis oblongis pellucidis, superioribus rotundatis obscuris; perichætialia elongata, erecta, late elliptica, convoluta, subulato-acuminata. Pedunculus breviusculus, pallidus.

Hab. Peruvia, Macasani, in rupibus umbrosis, *Lechler*, n. 2720.

Caulis 2-uncialis. Folia ½-linearia, juniora viridia, inferiora fusca. *A. peruviano* simillimum, sed foliorum marginibus erectis, et perichætialiis longioribus diversum.

7. A. PERUVIANUM (*Sulliv. Amer. Expl. Exped.* 1859, t. 1). Dense cæspitosum. Folia brevia, canaliculata, nervo sub apice evanido carinata, marginibus integerrimis inferne recurvis reflexisve, cellulis superioribus subobscuris, basi in medio folio paucis oblongis pellucidis; perichætialia inferne orbiculata, convoluta, apicibus subulatis patentibus. Theca in pedunculo brevi pallido, breviter ovalis, operculo oblique subulato.

Hab. Andes Quitenses, in monte Chimborazo, *Jameson*.

Caulis ½-uncialis. Folia ½-linearia, superiora sordide viridia, inferiora rufescentia. Pedunculus sub-3-linearis.

8. A. ANDINUM (*Mitt.*). Folia patentia, siccitate appressa, curvata, nervo percursa, marginibus integerrimis, cellulis basilaribus paucis oblongis, superioribus parvis obscuriusculis; perichætialia a basi ovali convoluta, acuminata. Theca in pedunculo gracili, ovalis, operculi rostro tenui obliquo.

Hab. Andes Quitenses, Quito in rupibus umbrosis (10,000 ped.), *Spruce*, n. 231.

Caulis uncialis. Folia lineam longa, juniora læte viridia, seniora fusca.

A speciebus reliquis Americanis foliis longioribus remotum, et *A. Roylei* (Indiæ orient.) affine sed gracilius.

36. STREPTOPOGON, Wils.; Mitt. in Hook. Kew Journ. iii. 51.

Musci pulvinatim cæspitosi. Folia humida mollia, cellulis laxis teneris areolata. Thecæ breviuscule pedunculatæ, magnæ. *Habitatio* ad arborum fruticumque corticem.

Folia limbo marginata.
Calyptra breviuscula.
Folia oblonga, subulato-acuminata .... 1. *S. erythrodontus.*
Folia elongate oblongo-elliptica............ 2. *S. clavipes.*
Folia latiora minus acuminata .... 3. *S. Lindigii.*
Folia oblongo-ovalia .... 4. *S. latifolius.*
Calyptra elongata.
Folia oblongo-lanceolata, latiuscule acuminata. 5. *S. mnioides.*
Folia immarginata.
Folia elliptico-spathulata .... 6. *S. setiferus.*
Folia elliptico-oblonga, obtusa, concava ...... 7. *S. cavifolius.*

1. S. ERYTHRODONTUS (*Tayl. in Hook. Lond. Journ.* v. 50, Tortula; *Wils. l. c.* t. 15 F). Monoicus, laxiuscule pulvinatus. Folia laxa, patentia, nervo in pilum tenuem sublævem excurrente, marginibus limbo angusto flavo circumdatis, inferne recurvis superne serrulatis, cellulis oblongo-hexagonis prosenchymaticis utriculo contracto repletis pellucidis; perichætialia conformia, apicibus ad thecæ os haud attingentibus. Theca oblongo-cylindracea in pedunculo æquilongo, operculo subulato, peristomii dentibus rubris contortis, basi in membranam brevem coalitis; calyptra superne setulosa, basi subnuda.

Hab. Andes Bogotenses, ad viam inter Tipaquira et Pacho, ad arborum humiliorum ramos (8000 ped.), *Weir*, n. 169 et 188. Pacho, Rio Arzobispo, et Paramo Choachi (2200–3700 metr.), *Lindig*. Andes Quitenses, Quito, *Jameson*; valde frequens in montibus Pichincha, Llalla, et Chimborazo (6000–10,000 ped.), *Spruce*, n. 141.

Caulis $\frac{1}{2}$–$1\frac{1}{2}$ unciam altus. Folia 2-linearia, humida mollia flaccida, siccitate subpatentia, spiraliter torquescentia, e pallide olivaceo viridia fulva. Pedunculus lineam longus. Theca pallide fusca, longitudine lineam parum excedens. Florescentia mascula ex antheridiis minutis in axilla folii unici, perichætio exteriore abscondito et facillime præterviso.

2. S. CLAVIPES (*Spruce*). Monoicus, orthotrichoideus. Folia laxe disposita, flaccida, patentia, nervo angusto rufo in pilum rufum excurrente, margine a basi fere ad apicem usque reflexa, apicem versus serrulata, limbo angusto inconspicuo infra apicem evanescente, cellulis basilaribus oblongis, superioribus oblongo-hexagonis prosenchymaticis pellucidis; perichætialia conformia, apicibus spinoso-serratis thecam superantibus. Theca in pedunculo ea dimidio breviore crassiusculo immersa, oblongo-cylindracea, operculo subulato, peristomii dentibus rubris angustis in membranam brevem rubram coalitis; calyptra ad operculi basin descendens, basi multifida, superne ramentis brevibus pallidis dense vestita.

Hab. Andes Quitenses, Pallatanga (6000 ped.), *Spruce*, n. 1418.

Caulis uncialis. Folia 2-linearia, rufescentia, sicca appressa. Theca $1\frac{1}{2}$-linearis. Peristomium $\frac{1}{2}$ lineam longum.

3. S. LINDIGII (*Hampe in Ann. Sc. Nat.* ser. 5. iii. 351). Laxe cæspi-

tosus, erectus, olivaceo-lutescens, humilior; caulis rigidiusculus, parce ramosus, subfastigiatus. Folia latiora, minus acuminata, marginata, parce apice dentata, nervo percursa, setaceo-apiculata, pungentia. Theca ampla, elliptica, breviseta, in foliis perichætialibus recondita; peristomium miniatum, basi decolorans, albidum; calyptra læviuscula, vix scabra.

Hab. Andes Bogotenses, Pacho (2200 metr.) in sylvis, *Lindig.*

Ab *S. erythrodonto* differt caule humiliore rigidiusculo, minus ramoso, foliis latioribus minus acuminatis, nervo excedente longiore aristatis, theca ampliore breviseta, nec exserta et peristomio bicolori.—*Hampe, l. c.*

4. S. LATIFOLIUS (*Mitt.*). Dioicus, pulvinatus; caulis fastigiate ramosus. Folia patentia, nervo in aristam brevem lævem excurrente, margine usque ad apicem fere anguste reflexa, apice minute dentata, e cellularum serie unica minorum obscuriorum anguste limbata, cellulis inferioribus oblongis pellucidis, superioribus subhexagonis, utriculo collapso repletis; perichætialia conformia, pilo longiore. Theca in pedunculo crasso quam ipsa breviore, oblongo-cylindracea, matura olivacea, ore rubro, operculo conico subulato; peristomium basi pallidum usque ad medium tubulosum, dentibus exinde liberis intense rubris fere rectis; calyptra infra os thecæ paullum descendens, superne dense sed minute dentata. Planta mascula compactius pulvinata, ramulis brevibus iterum iterumque infra florem gemmiformem crassiusculum oriundis divisa, antheridia plura paraphysesque foliis parvis obtecta fovens.

Hab. Andes Bogotenses, ad viam inter Tipaquira et Pacho, ad arborum humiliorum ramos, inter cæspites *Acidodontii megalocarpi* (8000 ped.), *Weir.*

Statura habitu coloreque *S. setifero* simillimus, foliisque siccitate laxe appressis, species autem diversa videtur foliis pilo breviore, perichætialibus vix caulinis diversiformibus, haud superne angustatis, limbo angusto obscuro marginatis et florescentia.

5. S. MNIOIDES (*Schwægr.* t. 310, Barbula). Dioicus; rami ramosi. Folia inferne erectiora, superne patentia incurva, nervo rufo in apiculum brevem angustissimum excurrente carinata, marginibus flexuosis, limbo e cellulis elongatis pellucidis rufis, supra partem erectiorem paulułum intramarginali, summo apice evanescente, cellulis basilaribus paucis elongatis, superioribus rotundo-hexagonis obscuriusculis; perichætialia longe exserta, anguste elliptica, erecta, laxe convoluta, apicibus sensim acuminatis, ad thecæ medium attingentibus, nervo percursa, limbo nullo, cellulis omnibus angustissimis pellucidis. Theca in pedunculo crassiusculo, brevis, cylindracea, operculo subulato, thecæ dimidium longitudinis æquante; calyptra usque ad thecæ medium descendens, pluries fissa. Flos masculus apicalis, gemmiformis, crassus, foliis arcte imbricatis, antheridiis pluribus paraphysibus æquilongis immixtis.

Hab. Andes Quitenses, *Jameson.* Andes Chilenses, Cordillera de Raneo, ad arbores, etiam ad Arique, *Lechler*, n. 654.

Caulis subuncialis. Folia 1½ lineam longa, sicca incurva, juniora glauco-viridia, seniora rufescentia. Pedunculus 2½ lineas longus. Theca lineam longa. Calyptra 1½-linearis.

6. S. SETIFERUS (*Mitt.*). Monoicus. Folia inferiora erecto-patentia, laxe imbricata, ovalia, acuta, superiora perichætialiaque cuspidato-acuminata, omnia nervo rubro in pilum sublævem longe excurrente, marginibus fere usque ad apicem reflexis, apice parce serrulatis, limbo nullo, cellulis basilaribus pellucidioribus paucis oblongis rectangulis ad margines minoribus, superioribus omnibus laxis mollibus subrotundis hexagonis utriculo collapso repletis. Theca in pedunculo subæquilongo tumido, siccitate collapsa tortaque, oblonga subcylindracea, ore rubro, operculo conico subulato; peristomium elongatum, basi pallidum, ad medium usque tubiforme, inde dentibus liberis subrectis; calyptra paullulum infra os thecæ descendens, basi paucifissa, superne fusca, minute sed dense denticulis inspersa. Flores masculi *S. erythrodonti.*

Hab. Andes Bogotenses, ad caudices filicum sylvarum prope Pacho (6000 ped.), *Weir*, n. 264.

Statura habituque *S. erythrodonto* similis, folia autem duplo latiora, siccitate appressa, marginibus latius reflexis. Theca et calyptra majores.

7. S. CAVIFOLIUS (*Mitt.*). Caulis fastigiatim ramosus. Folia patentia, apice cucullata, incurva, nervo flavo percursa, marginibus integerrimis interdum inferne recurvis, cellulis basilaribus paucis oblongis, in medio folio rectangulis, ad margines minoribus, superioribus oblongis subhexagonis mollibus lævibus, utriculo collapso repletis.

Hab. Andes Quitenses, Baños ad pedem montis Tunguragua, in ramulis præcipue malvacearum suffruticosarum, etiam in monte Guayrapata (6000–10,000 ped.), *Spruce*, n. 140.

Caulis ½–1-uncialis. Habitu *S. erythrodonto* simillimus, sed ob folia perfecte cucullata cymbiformi-concava distinctus.

37. ENCALYPTA, Schreb. Gen. Pl. n. 1643.

Musci caulibus brevibus vel rarius elongatis. Folia lata, cellulis superioribus rotundatis intense viridibus opacis, inferioribus laxissimis tenerrimis fragilibus hyalinis areolata. Thecæ erectæ, cylindraceæ, peristomii dentibus elongatis vel abbreviatis vel nullis. *Habitatio* ad terram et rupes.

Calyptra basi fimbriata.	
Calyptra apice scabra..........................	1. *E. asperifolia.*
Calyptra superne glabra..........................	2. *E. mexicana.*
Calyptra basi nuda.	
Folia mucronata..........................	3. *E. coarctata.*
Folia obtusiuscula	4. *E. australis.*

1. E. ASPERIFOLIA (*Mitt.*). Monoica, laxe cæspitosa, ramosa. Folia patentia, oblongo-ligulata, obtusa mucroneve obtuso terminata, marginibus flexuosis incurvis subcomplicatis, nervo latiusculo sub summo apice evanido, dorso denticulis pluribus aspero, cellulis inferne ad margines elongatis, in seriebus circiter sex dispositis, limbum luteum superne minute ciliatum efformantibus, interioribus (basilaribus) pallidioribus quadratis parallelogrammicisque limitibus fuscis tertiam partem folii longitudinis occupantibus, superioribus oblongis sensim in quadratas rotundasque opacas papillosas transeuntibus; perichætialia conformia. Theca in pedunculo brevi, cylindracea, sicca evacua pluries plicata, operculo subulato, peristomio nullo; calyptra basi æqualis, apice scabra.

Hab. Andes Quitenses, in saxis prope oppidum Guano (9000 ped.), *Spruce*, n. 150 *b.* Andes Peruvianæ, Cerro Pasco, *Mathews.*

2. E. MEXICANA (*C. Müll. Syn.* i. p. 516). Monoica, habitu *E. vulgaris*, sed robustior. Folia caulina nervo excurrente apiculata; perichætialia similia. Theca in pedunculo longiore flavido dein rubente erecta, cylindrica, angusta, simpliciter annulata, operculo longe subulato recto; peristomium simplex, e dentibus lanceolatis brevibus rubentibus rugulosis superne albidis obsolete articulatis compositum; calyptra basi perfecte et longe fimbriata, superne glabra.—*C. Müll. l. c.*

Hab. Mexico, *Ehrenberg.*

Flores masculi crassi, foliis perigonialibus late ovatis acutis, nervo evanido v. excurrente, apice denticulatis et opace areolatis scaberrime papillosis.

3. E. COARCTATA (*Mitt.*) Monoica, cæspitosa. Folia erecto-patentia, oblongo-elliptica, planiuscula, marginibus medio anguste reflexis, superne ob papillarum prominentiam minute crenulatis, nervo pallide fusco in mucronem brevem excurrente, cellulis basi pro spatio brevi oblongis hyalinis limitibus ferrugineis, marginalibus angustioribus viridibus, superne subito in virides obscuras fere opacas mutatis. Theca in pedunculo brevi pallide fusco, cylindracea, lævis, ore coarctato, operculo subulato, peristomii dentibus parvis brevibus pallide flavis teneris; calyptra magna, pallide fusca, infra thecæ basin descendens, basi fusca, fimbriata.

Hab. Andes Quitenses, in summo monte Pichincha (10,000 ped.), *Jameson.*

Caulis 4–6-linearis. Folia fere 2-linearia latitudine lineæ $\frac{2}{3}$ metientia, superiora intense viridia, seniora fusca, firma, sicca appressa incurva. Pedunculus 3-linearis. Calyptra $2\frac{1}{2}$-linearis.

4. E. AUSTRALIS (*Mitt. in Journ. Linn. Soc.* 1859). Caulis humilis. Folia comalia subelliptico-spathulata, obtusiuscula, nervo dorso apice parce denticulato scabrove percursa, margine ob papillarum prominentiam erosa. Theca cylindracea, lævis, gymnostoma, operculo subulato subæquilongo; calyptra apice lævis.

Hab. Ins. Chiloe, *Lobb. Herb. Hooker.*

Caulis 2–3 lineas altus. Folia lineam longa.

Tribus VI. ORTHOTRICHEÆ.

38. ORTHOTRICHUM, Hedw. Musc. Frond. ii. 96.

Musci in pulvinulis hemisphæricis vel expansis crescentes. Folia siccitate appressa, strictiuscula vel crispata, ut plurimum lineari-lanceolata. Flores raro dioici. Calyptræ ramentis erectis pilosæ vel nudæ. *Habitatio* ad arborum corticem, etiam in saxis.

Sect. 1. ORTHOPHYLLARIA. ***Folia basi haud dilatata, sicca appressa, non crispantia.***

Calyptra nuda.
Theca plicata.
Theca exserta, sicca sub ore contracta, rubro-fusca, calyptra apice scabra. 1. ***O. trachymitrium.***
Theca emersa, sicca in cylindrum contracta .. 2. ***O. patulum.***
Theca immersa, superne plicata .... 3. ***O. subulatum.***
Theca lævis .... 4. ***O. laxifolium.***
Calyptra pilosa. Theca plicata.
Cilia angusta, hyalina, 8.
Monoici.
Theca immersa.
Calyptra ramentis longioribus erectis pilosa. 5. ***O. æquatoreum.***
Calyptra ramentis brevibus appressis vestita. 6. ***O. pungens.***
Theca exserta .... 7. ***O. assimile.***
Calyptra dimidio superiore ramentis luteis appressis pilosa. 8. ***O. penicillatum.***
Dioici .... 9. ***O. aristatum.***
Cilia latiora, rufescentia, 8.
Theca immersa, longicolla, obscure sulcata .. 10. ***O. psychrophyllum.***
Theca immersa, sicca plicata .... 11. ***O. Mandoni.***
Theca in pedunculo subduplo longiore, exserta, a medio ad os usque plicata .... 12. ***O. pariatum.***
Theca lævis, ultra folia perichætialia haud exserta. 13. ***O. undulatum.***
Theca lævis, emergens .... 14. ***O. elegantulum.***
Theca lævis, in pedunculo brevi, exserta .... 15. ***O. elongatum.***
Theca lævis, in pedunculo elongato, exserta .. 16. ***O. tuberculatum.***
Cilia lata, rufescentia, 16.
Theca exserta, dimidio superiore plicata .... 17. ***O. rubescens.***
Theca exserta, fere ad basin usque plicata .. 18. ***O. apiculatum.***
Theca emersa, obsolete striata .... 19. ***O. pycnophyllum.***

Theca emersa, obsolete striata, ciliis pallidis uno latere erosis.
20. *O. recurvans.*

Theca immersa, lævis .... 21. *O. striatum.*

Sect. 2. ULOTA. *Folia basi dilatata, excavata, sicca appressa v. sæpius crispata.*

Calyptra nuda.

Folia sicca appressa subtorta .... 22. *O. glabellum.*

Folia sicca immutata patentia .... 23. *O. eremitensis.*

Folia sicca appressa stricta.................. 24. *O.macrocalycinum.*

Folia sicca crispata .... 25. *O. carinatum.*

Calyptra pilosa.

Cilia peristomii interni lata v. e duplici serie cellularum composita.

Cilia e cellularum serie duplici .... 26. *O. germanum.*

Cilia plana irregularia.................... 27. *O. magellanicum.*

Cilia simplicia, filiformia.

Cellulæ basilares marginales, rectangulares, in serie singula dispositæ.
28. *O. fulvellum.*

Cellulæ basilares marginales in seriebus pluribus dispositæ.

Folia perichætialia caulina haud excedentia.

Calyptra ramentis elongatis sparsis vestita.
29. *O. rufulum.*

Calyptra ramentis paucis brevibus appressa.
30. *O. fuegianum.*

Folia perichætialia caulinis longiora.

Folia margine minute erosa.

Folia cellulis approximatis obscuriusculis minute papillosis.
31. *O. Lobbianum.*

Folia cellulis remotiusculis sublævibus. 32. *O. Darwinii.*

Folia margine integerrima.

Theca collo subnullo .... 33. *O. brevicolle.*

Theca collo sensim angustato ...... 34. *O. chilense.*

Fructus ignotus.

Folia apice gemmifera...................... 35. *O. phyllanthum.*

Folia apice nuda .... 36. *O. rufescens.*

Sect. 1. *Orthophyllaria*, C. Müll. Syn. i. 688, ex parte.

1. O. TRACHYMITRIUM (*Mitt.*). Humile. Folia patentia, oblongo-lanceolata, acuta, carinata, marginibus nullibi recurvis planiusculis, cellulis basi pellucidis oblongis, superioribus parvis rotundatis granulosis papillosis; perichætialia plura minora. Theca in pedunculo quam ipsa duplo longiore, ovalis, sicca subcylindracea, operculo acuminato, peristomii dentibus 8, ciliis 8 angustis æquilongis; calyptra apice rubra.

Hab. Andes Quitenses, ad saxa in nemoribus montium Chimborazo et Carguairazo (10,000–11,000 ped.), *Spruce*, n. 121; in monte Cayambe, *Jameson*.

2. O. PATULUM (*Mitt.*). Humile. Folia a basi erectiore ad insertionem angustiore patula, late elliptico-lanceolata, apice acuta obtusiuscule acutave, nervo carinata, marginibus recurvis integerrimis, cellulis basi paucis oblongis inanibus, superioribus rotundatis parvis nodulosis minute papillosis; perichætialia conformia. Theca ovalis, peristomii dentibus 8, ciliis 8 æquilongis angustis; calyptra apice rubra.

Hab. Andes Quitenses, in Cordillera occidentali ad Pangor (11,000 ped.), *Spruce*, n. 119.

3. O. SUBULATUM (*Mitt.*). Caulis elongatus. Folia inferne erectiora, sensim patentia, elongata, elliptico-lanceolata, canaliculata, nervo angusto sub apice evanido, marginibus apice incurvis, inde ad basin usque reflexis crenulatis, cellulis basilaribus elongatis angustis, superioribus parvis rotundis inter se distinctis pellucidis dense papillosis; perichætialia latiora, late ovali-lanceolata, sensim subulata, piliformi-acuminata. Theca oblonga, tenera, operculo convexo acuminato, peristomii dentibus 8, ciliis æquilongis simplicibus 8; calyptra ad thecæ medium descendens.

Hab. Andes Quitenses, *Jameson*; ad ramulos in montibus Tunguragua, Guayrapata, et Titaicun (8000–10,000 ped.), *Spruce*, n. 120.

Caulis 1–1½-uncialis. Folia 2-linearia, fulvo-viridia, sicca laxe appressa.

4. O. LAXIFOLIUM (*Wils.*; *Mitt. in Hook. Kew Journ.* iii. 57). Caulis fastigiatim ramosus. Folia e basi erectiore ovali sensim longe anguste acuminata, nervo carinata, marginibus superne flexuosis subintegerrimis, inferne reflexis, cellulis basilaribus ad nervum paucis oblongis pellucidis, reliquis omnibus rotundatis granulosis fere lævibus; perichætialia longiora latioraque. Theca in pedunculo æquilongo, ovata, lævis, operculo conico acuminato, peristomii dentibus 8, ciliis latis 8 æquilongis; calyptra fere ad basin usque thecæ descendens.

Hab. Andes Quitenses, *Jameson*; in monte Azuay (12,000 ped.), *Spruce*, n. 123 *b*.

Caulis 1–1½-uncialis. Folia 2-linearia, sordide viridia, flaccida. Pedunculus cum theca 1½-linearis. Theca ipsa pro planta parva.

5. O. ÆQUATOREUM (*Mitt.*). Humile. Folia a basi erectiore recurvo-patula, oblongo-lanceolata, acuta, nervo sub apice evanido carinata, marginibus integerrimis nullibi recurvis, cellulis basi oblongis inanibus, superioribus minute rotundatis papillosis; perichætialia apice latiuscula, obtusa vel obtuse acuta. Theca immersa, oblonga, leptoderma, sicca cylindracea, operculo brevi conico acuminato, peristomii dentibus 8, ciliis æquilongis, calyptræ ramentis longioribus erectis.

Hab. Andes Quitenses, ad ramulos in monte Titaicun (11,000 ped.), *Spruce*, n. 122; etiam in devexis Andium occidentalium, *Jameson*.

O. tenelli Bruch (Europæ) magnitudine æmulus. Species foliorum marginibus planis nec recurvis facile cernenda.

6. O. PUNGENS (*Mitt.*). Humile. Folia a basi erectiore patula, late

lanceolata, apice sensim acuta acuminatave, acumine pellucido vel diaphano terminata, nervo carinata, marginibus fere ad apicem usque recurvis apice denticulatis integerrimisve, cellulis basi oblongis inanibus, superioribus rotundatis utriculo contracto repletis sublævibus; perichætialia conformia. Theca immersa, ovali-cylindracea, leptoderma, sicca cylindracea, collo sensim attenuato, operculo brevi acuminato, peristomii dentibus 8, ciliis subæquilongis.

Hab. Andes Quitenses, *Jameson*; in montibus Carguairazo, Chimborazo et Patate &c. (7000–11,000 ped.), ad truncos arborum pomiferarum, *Spruce*, n. 128.

O. diaphano Schrad. ex habitu magnitudineque simile.

7. O. ASSIMILE (*C. Müll. Syn.* i. 704). Habitus inter *O. stramineum* et *O. alpestre*; pusillum, parce dichotomum. Folia *O. alpestris*, sed e-chlorophyllosa. Theca ejusdem ovalis brevicolla sed minuta, breviter sed longius quam in *O. stramineo* exserta; calyptra pilosa et peristomium *O. alpestris*, sed dentes ubique rugulosi luteoli.—*C. Müll. l. c.*

Hab. Chili, *Pœppig*.

8. O. PENICILLATUM (*Mitt.*). Pulvinatum, humile, ramosum. Folia patentia, lanceolata, dimidio inferiore latiore ovali, apice latiuscula, obtusa obtusiuscule acutave, nervo carinata, marginibus a basi fere ad apicem usque revolutis undulatisque, cellulis superioribus rotundatis granulosis papillosis, basi in folii medio paucis elongatis pallidis; perichætialia duplo longiora latioraque, magis elliptica. Theca in pedunculo æquilongo, ovalis, operculo brevi apiculato; peristomii dentibus 8, ciliis filiformibus.

Hab. Andes Novo-Granatenses ad viam inter Bogotá et Choachi (8800 ped.), in ascensu ad Paramo ad arbores, *Weir*, n. 172.

Caulis $\frac{1}{2}$–$\frac{3}{4}$-uncialis. Folia 2-linearia. Theca 1$\frac{1}{2}$-linearis, siccitate infra os contracta.

Habitus *O. tenelli*, Bruch, Europæ, sed partibus omnibus robustius. Calyptra apice pilis conniventibus penicillata. Theca immersa vel ultra apices foliorum perichætialium exserta.

9. O. ARISTATUM (*Hampe in Ann. Sc. Nat.* ser. 5. iv. 333). Laxe pulvinatim cæspitosum, humile, flavo-viride; caulis parce ramosus, fastigiatus, basi parce fusco-fibrillosus, infra laxe, superne densius foliatus. Folia tenera, laxe accumbenti-erecta, humida patula, carinato-concava, oblongo-lanceolata, margine arcte reflexa, apiculo brevi hyalino fragili aristata, nervo fuscescente apice evanido; cellulis basilaribus elongato-quadratis, lateralibus brevioribus pellucidis, versus apicem dense aggregatis subrotundis papillosis subopacis. Theca breviseta, subemersa, oblongo-cylindrica, anguste 8-costata, evacuata leptoderma pallens, operculo pallido parum convexo arista brevi coronato; peristomium duplex, dentibus exterioribus 8 late ovatis brevibus, ex cruribus 4 connatis inte-

gris demum reflexis, interni laciniis subulatis octo fugacibus; calyptra pallide flavescens, pilosiuscula.—*Hampe, l. c.*

Hab. Andes Bogotenses, Sabana et La Penna (2600 metr.), ad arbores in sylvis, *Lindig.*

Ab *O. tenello* sexu et foliis aristatis diversum.—*Hampe, l. c.*

10. O. PSYCHROPHYLLUM (*Mont. in d'Orb. Voy. Amér. Mér.* vii. 89). Caulis erectus, densifolius, pusillus, innovationibus iteratis fertilibus brevissimis densifoliis parce ramosus, lutescenti-fuscescens, rigidus. Folia caulina erecta, madefacta distantia recurviuscula, robusta, longiuscula, a basi ovato-oblonga lanceolata, acuminata, margine ultra medium usque revoluta, evanidinervia, complicate carinata, subtortuoso-flexuosa, grosse angulate rotundata, basi ubique incrassate rectangulari-areolata, grosse papillosa; perichætialia majora, basi tenerius reticulata. Theca oblonga, operculo convexo mucronato; peristomii duplicis dentes 8 bigeminati, pallide rugulosi, cilia nodosa; calyptra conica, fusca, rigida, pilosiuscula. —*C. Müll. Syn.* i. 704.

Hab. In jugis Andium prov. Potosi, ad rupes prope glacies æternas (2500 hexap.), *D'Orbigny.*

O. affini haud dissimile. Statura *Grimmiæ maritimæ* formas minores haud male refert.—*C. Müll. l. c.*

11. O. MANDONI (*Schimp.*; *Hampe in Ann. Sc. Nat.* ser. 5. iv. 332). Laxe cæspitosum, unciale et altius, basi fusco-tomentosum, apice lutescenti-viride; caulis inferne attenuatus, diviso-ramosus, apice ramis brevibus incrassatus. Folia inferiora laxe accumbentia, humida patula, apice parum recurva, oblongo-lanceolata, carinata, margine revoluta, nervo rufescente percurrente apice evanido, integerrima; cellulis alaribus paucis, majoribus quadratis hyalinis, secundis lateralibus abbreviatis, intermediis linearibus flavescenti-diaphanis, versus apicem folii sensim abbreviatis, anguste ellipticis, demum in summo dense aggregatis papillosis rotundatis paulo obscurioribus. Theca breviseta, leptoderma, ovato-oblonga, humida lævis, sicca sub ore contracta, operculo pallido umbonato-apiculato; peristomium duplex, dentibus exterioribus lato-lanceolatis flavidis apice divisis erectis, interioribus ciliis lanceolato-subulatis nodulosis subconcoloribus; calyptra campanulata, papilloso-aspera, apice pilifera, basi inciso-lobata.—*Hampe, l. c.*

Hab. Andes Bogotenses, Paramo Choachi (3000 metr), ad ramos, *Lindig.*

Ab *O. laxifolio* Wils. differt calyptra breviore, apice pilifera basi laciniata.—*Hampe, l. c.*

12. O. PARIATUM (*Mitt.*). Laxe pulvinatum. Folia a basi brevi latiore erectiore late lanceolata sensim acuta, divergentia recurvaque, nervo carinata, margine anguste recurvo apice sinuoso undulato vix crenulato, cellulis basi elongatis, superioribus rotundatis granulosis papillosis; perichætialia conformia. Theca ovalis, operculo conico apiculato, pe-

ristomii dentibus 8 ciliisque pallide rufis; calyptra ramentis brevibus appressis pilosa.

Hab. Andes Quitenses, in montibus Titaicun et Carguairazo (11,000 ped.), *Spruce,* n. 130, etiam in monte prætalto Cayambe, *Jameson.*

O. elongato simillimum, foliis autem brevioribus, latioribus, et theca breviore differt.

13. O. UNDULATUM (*Mitt.*). Elatum. Folia patentia, sicca laxe appressa, apice recurva, a basi latiore sensim anguste lanceolata, acuta, marginibus flexuosis integerrimis inferne revolutis, nervo carinata, cellulis basilaribus elongatis angustis, ad angulos paucis fuscis impressis, superioribus minutis oblongis ovoideisve papillosis; perichætialia conformia, thecam ovalem pallidam longe superantia. Peristomii dentes 8, lati, sicci, reflexi; cilia lata, pallide rufa; calyptra ramentis pilosa.

Hab. Andes Quitenses, in monte Azuay (alt. 12,000 ped.), *Spruce,* n. 123.

Caulis 1½–2-uncialis. Folia minus quam in *O. leiocarpa* (Europæ) appressa.

14. O. ELEGANTULUM (*Schimp.*). Dense cæspitosum, humile. Folia a basi erectiore late ovali sensim angustata, apice latiuscula, acuta obtusiusculave, patentia, nervo carinata, marginibus integerrimis inferne reflexis, cellulis basilaribus angustis pellucidis, superioribus parvis rotundis fere lævibus obscuriusculis; perichætialia inferne latiora, superne angustiora. Theca ovalis, collo sensim attenuato, leptoderma, peristomii dentibus 8 latis, ciliis latis; calyptra ramentis obtecta.

Hab. Magellan, Sandy Point, ad arborum truncos, *Lechler,* n. 1290.

Caulis ½-uncialis. Folia 1½-linearia, luteo-viridia, sicca appressa. Theca cum collo 1¼ lineam longa.

15. O. ELONGATUM (*Tayl. in Hook. Lond. Journ.* v. 45). Laxe cæspitosum; caulis elongatus. Folia patenti-recurva, divaricata, inferne latiora ovalia, superne elongata sensim angustata, nervo carinata, marginibus inferne reflexis, apice valde flexuosis, cellulis basilaribus elongatis angustis, superioribus rotundatis inter se remotiusculis obscuris, intus fere lævibus, extus papillosis; perichætialia subconformia. Theca ovalis, lævis, parva, in pedunculo brevi, exserta, peristomii dentibus 8 latis, processibus internis latis; calyptra ramentis densis obtecta.

Hab. Andes Quitenses, *Jameson*; in montibus Carguairazo, Tunguragua, Pichincha, et Llalla, &c., ad ramos (8000–10,000 ped.), *Spruce,* n. 129.

Caulis 1–1½-uncialis. Folia fere 3 lineas longa, mollia, luteo-viridia, fuscescentia. Pedunculus 1½-linearis. Calyptra straminea.

16. O. TUBERCULATUM (*Mitt.*). Pulvinatum, dichotome ramosum. Folia patentia divaricataque, sicca laxe appressa, erecta, dimidio inferiore subovali, superiore sensim angustato acuto, apice sæpe complicato, marginibus undulatis in medio folio recurvis reflexisve, nervo carinata, cel-

lulis basilaribus mediis elongatis angustis pellucidis papillosis, marginalibus superioribusque subrotundis parvis granulosis, inter se remotiusculis papillosis; perichætialia conformia, apice parum angustiora. Theca late ovalis, sicca basin versus bullato-tuberculosa, operculo conico acuminato, peristomii dentibus 8, ciliis latis subconcoloribus erosis; calyptra thecam totam obtegens, straminea, ramentis vestita.

Hab. Andes Novo-Granatenses, ad viam inter Tipaquira et Pacho (8000 ped.), in ramis arborum humiliorum, *Weir,* n. 185.

Caulis 1 1½-uncialis. Folia 2-linearia, luteo-viridia, mollia. Pedunculus 4-linearis. Theca lineam longa, ore magno, basin versus statu sicco tuberculis bullata.

Habitus *O. elongati,* sed folia minus angustata et theca latior breviorque.

17. O. RUBESCENS (*Mitt.*). Laxe pulvinatum, elatiusculum. Folia a basi latiore erectiore divergentia, lanceolata, apice acuta, sæpe inæqualiter acuminata, nervo carinata, marginibus recurvis integerrimis, cellulis basi elongatis ad angulos decurrentes majoribus pellucidioribusque, superioribus rotundis granulosis papillosis; perichætialia conformia. Theca in pedunculo æquilongo, cylindracea, ætate rubescens, operculo brevi conico-acuminato, peristomii dentibus 8 rubris, ciliis subæquilongis concoloribus; calyptra thecam obtegens, ramentis flexuosis appressis pilosa.

Hab. Andes Quitenses, in montibus Carguairazo, ad ramos, etiam ad folia Agavæ (10,000 ped.), et formæ variæ ad Patate, Penipe, Pichincha, Titaicun, &c. (7000–11,000 ped.), *Spruce,* n. 126.

Caulis uncialis. Habitus *O. affinis* (Europæ), foliis autem acutis differt.

18. O. APICULATUM (*Mitt.*). Laxe pulvinatum. Folia a basi erectiore patentia patulaque, concava, apice subito in cuspidem subcrenatam curvatam producta, nervo subcarinata, marginibus integerrimis revolutis, cellulis basi elongatis ad angulos paucis subquadratis pellucidioribus, superioribus rotundatis granulosis minute papillosis; perichætialia angustiora. Theca in pedunculo quam ipsa longiore, cylindracea, lutea, leptoderma, peristomii dentibus 8, ciliis æquilongis luteis; calyptra totam thecam obtegens, ramentis a basi ad apicem pilosa.

Hab. Andes Quitenses, in monte Pichincha (11,000 ped.), *Spruce,* n. 124.

Caulis uncialis. Habitus *O. elongati,* sed folia ambitu diversa basin versus haud dilatata, apice latiuscula, subito in cuspidem contracta.

19. O. PYCNOPHYLLUM (*Schimp.*; *C. Müll. Syn.* i. 709). Habitus, inflorescentia et theca *O. speciosi.* Folia patula, sicca incumbentia, lanceolata, anguste acuminata, canaliculata, margine reflexa, apice subtorta, nervo subexcurrente. Theca oblonga, leptodermis; calyptra parce pilosa; peristomium internum 16-ciliatum.—*C. Müll. l. c.*

Hab. Mexico, ad Chinantla et Pico de Orizaba, *Liebmann.*

Inter *O. speciosum et O. Lyellii* ambiguum, primo habitu et theca, secundo foliis margine crenulatis et dorso papillosis, calyptra parce pilosa et peristomii interni ciliis solidis erosis affine.

20. O. RECURVANS (*Schimp.*; *C. Müll. Syn.* i. 709). Præcedenti simillimum, sed differt: foliis mollioribus flexuoso-recurvis, peristomii interni ciliis pallidis et solo uno latere erosis, altero integris. — *C. Müll. l. c.*

Hab. Mexico, ad montem Orizaba (8000–10,000 ped.) una cum præcedente, *Liebmann.*

21. O. STRIATUM (*Linn. Sp. Pl.* 1579; *Hedw. Musc. Frond.* ii. t. 36). Laxe pulvinatum, plus minus elatum, ramosum. Folia a basi erectiore patentia, lanceolato-linearia, apice latiuscula, acuminata complicataque, nervo carinata, margine recurva fere ad apicem usque revoluta, cellulis parvis rotundatis basin versus paucis elongatis; perichætialia paullulum majora. Theca immersa, ovalis, lævis, pallida, operculo convexo brevirostrato, peristomii externi dentibus pallidis, interni ciliis latis brevioribus; calyptra ad thecæ medium descendens, apice rubra, ramentis sparsis vestita.

Hab. Andes Quitenses, Quito et Chimborazo, *Jameson*; Titaicun, ad saxa (13,000 ped.), *Spruce*, n. 127.

Caulis ½–1½ unciam altus. Folia densiuscula, fere 2-linearia, viridi-fuscescentia, obscura, sicca appressa, erecta, basi interdum fusco-striata, nonnulla ad angulos cellulis laxioribus areolata.

Sect. 2. *Ulota*, Mohr, Brid. i. 298.

Musci humiles, pulvinati vel caulibus subrepentibus expansi. Folia angusta, viridia, flavescentia, sicca sæpius crispata. Thecæ in pedunculo exsertæ, plicatæ. Flores rarissime dioici. *Habitatio* ad corticem arborum et rarius in rupibus.

22. O. GLABELLUM (*Mitt. in Journ. Linn. Soc.* 1859). Folia madefacta a basi erectiuscula suborbiculari concava, cellulis marginalibus oblongis parallelogrammicis hyalinis in seriebus pluribus dispositis, interioribus elongatis angustis areolata, inde angustata, lineari-lanceolata, patentia, nervo infra apicem evanido carinata, margine minute crenulata, cellulis remotiusculis rotundatis papillosis; perichætialia paullulum latiora. Theca in pedunculo ea duplo longiore, ovalis, collo brevi; calyptra apice rugosa.

O. luteolum, ex parte, *Hook. fil. et Wils. Crypt. Antarct.*

Hab. Fuegia, Hermite Island, *J. D. Hooker.*

O. germano magnitudine simile, foliis siccis autem haud crispatis et calyptra glabra distinctum.

23. O. EREMITENSE (*Mitt. in Journ. Linn. Soc.* 1859). Folia siccitate immutata, a basi lata suborbiculari concava, erectiuscula, seriebus pluribus

cellularum hyalinarum parallelogrammicarum marginata, patentia, lineari-lanceolata, nervo carinata, margine minute crenulato, cellulis rotundatis papillosis; perichætialia lanceolata. Theca in pedunculo ea triplo longiore, ovalis, basin versus lævis, peristomii dentibus 8 apicibus divisis, interni ciliis angustis capillaribus subæquilongis.

O. luteolum, *Hook. fil. et Wils. Crypt. Antarc.* ex parte.

Hab. Fuegia, Hermite Island, *J. D. Hooker.*

O. germano paullulum majus, foliis siccis haud crispantibus, basi dilatata longiore, et ciliis peristomii interioris capillaribus diversum.

24. O. MACROCALYCINUM (*Mitt. in Journ. Linn. Soc.* 1859). Caulis subrepens, ramis brevibus erectis. Folia patentia, a basi lata obovata erectiuscula concava, seriebus cellularum hyalinarum oblongarum marginata, cellulis internis angustis elongatis inde breviuscule lanceolatis, apice obtusiusculis, nervo infra apicem evanido carinata, integerrima, cellulis inter se remotiusculis depressis lævibus; perichætialia exserta, late lanceolata, erecta, obtusa, laxe convoluta, nervo medio evanido. Theca in pedunculo ea duplo longiore, ovalis, operculo conico acuminato, peristomii dentibus 8, ciliis angustis 8 (brevioribus?); calyptra fusca.

Hab. Fuegia, in fretu Magellan, Port Famine, ad arborum truncos, *Lyall.*

O. Hutchinsiæ Europæ et Americæ septentrionalis minor, foliis haud crispatis, cellulis superioribus latitudine $\frac{1}{2500}$ longitudine $\frac{1}{5000}$ unciæ metientibus, et perichætialibus exsertis latis obtusis ab aliis speciebus distinctissimum.

25. O. CARINATUM (*Mitt. in Journ. Linn. Soc.* 1859). Pulvinatum. Folia madefacta a basi erectiuscula suborbiculari concava, cellulis marginalibus oblongis parallelogrammicis hyalinis in seriebus pluribus dispositis, interioribus elongatis angustis luteis, inde lineari-lanceolata, elongata, nervo sub apice evanido profunde carinata, margine minute crenulata, cellulis minutis approximatis depressis minute papillosis obscuriusculis; perichætialia longiora, latiora, erectiora, vaginula pilosa. Theca in pedunculo ea quadruplo longiore, ovalis, plicata, operculo convexo brevirostrato, peristomii dentibus 8, ciliis 8 capillaribus subæquilongis.

Hab. Ins. Chiloe, *Lobb.*

O. fulvello paullulum majus, foliis latioribus basi brevioribus, cellulis densius approximatis, superioribus latitudine $\frac{1}{2000}$ longitudine $\frac{1}{4000}$ unciæ metientibus, siccis crispatis, theca absque collo attenuato distinguenda.

26. O. GERMANUM (*Mont. Cent.* 5. n. 56, *et in C. Gay, Chil.* 120). Pulvinatum, caule gracillimo ramoso. Folia imbricata, e basi ovali-oblonga vaginante linearia, obtusiuscula, carinata, margine reflexa, evanidinervia, patulo-incurva, aurea, siccitate crispula. Capsula oblonga, aurantiaca, exserta, madore striata, siccitate 8-plicata, calyptra conica integra pilosius-

cula; peristomii duplicis dentibus 8, ciliis 8, duplicibus lutescentibus.—*Mont. Syll.* 36. n. 107.

Hab. Chili, ad corticem arborum, *C. Gay*; prope Valdiviam, *Lechler.*

Specimen Lechlerianum fructu immaturo tantum mihi speciem monstrat. Folia basi seriebus 6–10 cellúlarum hyalinarum rectangularum marginata, cellulis superioribus obscuriusculis rotundatis latitudine $\frac{1}{3000}$ longitudine $\frac{1}{4000}$ unciæ metientibus papilliferis; folia perichætialia exserta, erecta, stricta, caulinis dimidio longiora.

27. O. MAGELLANICUM (*Mont. Cent.* 4. n. 10; *et Voy. Pôl. Sud,* 290, t. 20. f. 2). Pusillum, gracillimum, caule basi repente ramoso, ramis brevibus erectis ad apicem incrassatis. Folia conferta a basi ovata concava angustissime lanceolato-subulata, madefacta recurvo-patula, secunda, siccitate incurva, nervo viridi ante apicem evanido instructa, complicato-carinata, integerrima. Capsulæ clavatæ, longe exsertæ, operculo amplo convexo apiculato; peristomii duplicis dentibus 16 per paria approximatis erecto-conniventibus in sicco reflexis, ciliis totidem planis irregularibus; calyptra parce pilosa.—*Mont. l. c.*

Hab. Magellan, Port Famine, ad arborum corticem et fruticum, *Jacquinot* (Mont. Syllogr. 36. n. 108), etiam in Port Famine, *Lyall,* et ad Sandy Point, ad corticem *Fagi antarctici, Lechler,* n. 1020 (absque fructu).

Caules vel rami 3–4-lineares. Folia 1¼-linearia, basi ad latera cellulis rectangulis limbum indistinctum latiusculum formantibus. Pedunculus 2-linearis. Theca collo sensim angustato, peristomii interni processibus latis, dentibus exterioris similibus sed pellucidioribus.

28. O. FULVELLUM (*Mitt. in Journ. Linn. Soc.* 1859). Caulis procumbens, ramis pluribus brevibus ramosus. Folia madefacta a basi late ovali erecta concava cellulis interioribus angustis elongatis luteis areolata patentia, siccitate subtorta non crispata, longe anguste lanceolata, nervo sub apice evanido carinata, margine lævia, cellulis rotundatis; perichætialia a basi sensim lanceolato-angustata, caulinis paullulum latiora, erectiora. Theca in pedunculo ea duplo longiore, ovalis, collo sensim attenuato, peristomii dentibus 8, apicibus secedentibus, interni (?); calyptra ramentis æquilongis luteis pilosa.

O. luteolum, *Hook. f. et Wils. Crypt. Ant.* ex parte.

Hab. Fuegia, Hermite Island, *J. D. Hooker.*

O. germano simile, sed majus, foliis angustioribus siccis haud crispatis, cellulis superioribus diametro $\frac{1}{3000}$ unciæ metientibus.

29. O. RUFULUM (*Mitt.*). Folia a basi dilatata orbiculata excavata contracta linearia, patentia, angusta, flexuosa, nervo sub apice evanido carinata, margine uno latere basin versus partis linearis recurvo, ob cellularum prominentiam subcrenulato, cellulis superioribus rotundis subobscuris, basilaribus internis elongate oblongis, ad latera quadratis, in seriebus circiter 4 limbum latiusculum hyalinum formantibus areolata; perichætialia ovato-lanceolata, acuminata. Theca in pedunculo brevi pallido, parva, ovalis,

operculo rostrato, peristomii dentibus 8, interni ciliis subæquilongis simplicibus; calyptra fusca.

Hab. Chili, prope urbem Valdivia, *Lechler*, n. 527, ex parte.

Caulis 3-linearis. Folia vix lineam longa, angusta, rufa. Pedunculus $1\frac{3}{4}$-linearis.

30. O. FUEGIANUM (*Mitt. in Journ. Linn. Soc.* 1859). Caulis procumbens, ramosus, cæspitulosus. Folia sicca torta, madefacta a basi late obovata erectiuscula, concava, margine cellulis oblongis hyalinis parallelogrammicis in series plures dispositis marginata, inde angustata, elongata, patentia, nervo infra apicem evanido carinata, cellulis inter se remotiusculis rotundatis lævibus, margine apicem versus erosa; perichætialia erectiora, paullulum latiora, vaginula nuda. Theca in pedunculo ea duplo longiore, ovalis, collo sensim attenuato, plicata, peristomii dentibus 8, plus minus fissis, ciliis . . . . ?.

O. luteolum, *Hook. f. et Wils. Crypt. Ant.* quoad iconem calyptræ.

Hab. Fuegia, Hermite Island, Cape Horn, *J. D. Hooker.*

Statura habituque *O. fulvello* simillimum, torsioneque foliorum convenit, cellulis autem basilaribus pellucidis marginalibus in series plures dispositis, superioribus diametro $\frac{1}{3000}$ unciæ metientibus, et calyptra pilis paucis inspersa diversum.

31. O. LOBBIANUM (*Mitt. in Journ. Linn. Soc.* 1859). Folia basi erectiuscula suborbicularia, seriebus pluribus cellularum hyalinarum quadratarum crasse limbatarum marginata, interioribus angustis luteis areolata, angustata, lineari-lanceolata, patentia, nervo carinata, margine minute erosa; perichætialia caulinis duplo longiora, vaginula nuda. Theca in pedunculo ea quadruplo longiore; calyptra ramentis stramineis eam superantibus dense vestita.

Hab. Patagonia, et ins. Chiloe, *Lobb.*

O. carinato simillimum; foliis autem angustioribus, cellulis hyalinis basilaribus brevioribus crassius limitatis, superioribus diametro $\frac{1}{3000}$ unciæ metientibus, et vaginula nuda diversum.

32. O. DARWINII (*Mitt. in Journ. Linn. Soc.* 1859). Pulvinatum. Folia a basi ovali concava erectiuscula cellulis hyalinis oblongis in series plures marginales dispositis, interioribus angustis luteis, patentia, lineari-lanceolata, nervo carinata, margine minute erosa cellulis rotundatis; perichætialia longiora, erectiora, paullulum latiora, vaginula pilosa. Theca in pedunculo ea duplo longiore, ovalis, plicata, collo sensim attenuato, operculo convexo brevirostrato, peristomii dentibus 8, ciliis 8 capillaribus paullulum brevioribus.

Hab. Fuegia, Terra del Fuego, *Darwin.*

O. fuegiano simillimum, sed folia majora, cellulis densius approximatis diametro $\frac{1}{3000}$ unciæ metientibus, et vaginula pilosa.

33. O. BREVICOLLE (*Mitt.*). Pulvinata. Folia patentia, a basi orbiculata excavata superne contracta, linearia, sensim angustata, acuta, nervo

sub apice evanido carinata, cellulis superioribus parvis rotundis, basi ad nervum angustis elongatis, ad margines seriebus circiter 5 quadratis limbum hyalinum latiusculum formantibus; perichætialia erecta, caulinis dimidio longiora. Theca in pedunculo foliis perichætialibus duplo longiore, ovalis, fusco-fasciata, peristomii dentibus 8.

Hab. Chili, ad urbem Valdivia, *Lechler*, n. 527, ex parte.

Caulis 3–4-linearis. Folia lineam longa, e viridi fulvescentia. Pedunculus fere 3-linearis.

O. magellanico simile; thecæ autem collo vix distincto diversum.

34. O. CHILENSE (*Mitt.*). Pulvinatum. Folia patentia, a basi orbiculata excavata, superne contracta, anguste linearia, sensim angustata, acuta, nervo sub apice evanido carinata, marginibus integerrimis, cellulis superioribus parvis rotundatis obscuris, basilaribus ad nervum angustis elongatis, ad margines quadrato-oblongis pellucidis, in seriebus circiter 4 limbum latiusculum formantibus; perichætialia subduplo longiora, erecta, apicibus ad thecæ basin attingentibus. Theca oblonga, operculo brevirostrato, peristomii dentibus bigeminatis 8, ciliis simplicibus parum brevioribus 8; calyptra fusca, ramentis elongatis sparsis vestita.

Hab. Chili, prope urbem Valdivia, *Lechler*, n. 527, ex parte.

Caulis 2–3 lineas longus. Folia lineam longa, e viridi fulvescentia. Pedunculus 1½-linearis.

35. O. PHYLLANTHUM (*Brid.* i. 296). Pulvinatum, parce ramosum. Folia humida patentia, a basi erectiore parum latiore ovali sensim angustata, linearia, apice irregulari-acuminata, nervo in mucronem crassiusculum excurrente apice glomerulis corpuscularum oblongarum septatarum fuscarum obtecto carinata, marginibus inferne recurvis reflexisve integerrimis, cellulis basilaribus angustissimis elongatis, superioribus rotundatis parvis obscuris breviter papillatis.

Hab. Magellan, Hermite Island, *J. D. Hooker.*

Caulis uncialis. Folia 2-linearia, e viridi flavescentia, juniora ad apices propagulifera, seniora nuda, sicca crispata. Fructus hucusque ignotus.

36. O. RUFESCENS (*Hampe in Ann. Sc. Nat.* ser. 5. iv. 334). Dense cæspitosum, *O. crispulum* æmulans, sed intensius rufescens. Caulis gracilis, inferne tomentosus, superne diviso-ramosus. Folia crispula, ovato-lanceolata, carinata, sulcata, acuta, margine erecto integerrima, nervo lutescente versus apicem evanido, cellulis basilaribus minoribus quadratis diaphanis lævibus, intermediis brevioribus, cæteris dense congestis granuloso-papillosis subopacis.—*Hampe, l. c.*

Hab. Andes Bogotenses, Los Laches ad arbores sterile, *Lindig.*

Differt ab *O. crispulo* colore rufescente et foliis angustioribus sulcato-carinatis; cellulis basilaribus conformibus, nec lateralibus majoribus hyalinis.—*Hampe, l. c.*

E descriptione vix inter Ulotas ponendum.

39. MACROMITRIUM, Brid. i. 306.

Musci caulibus primariis repentibus radicantibus, ramos erectos quam plurimos humiles vel elatiores in cæspites latos expansos congestos foventibus. Folia angusta. Thecæ parvæ, oblongæ, pyriformes vel subglobosæ. *Habitatio* ad arborum corticem et in rupes.

Sect. 1. MACROCOMA. *Rami graciles subpinnatim ramosi. Folia parva, brevia, appressa, basi excavata. Theca microstoma. Calyptra elongata.*

Calyptra nuda .... 1. ***M. brasiliense.***
Calytra pilosa.
  Peristomii dentes geminati .... 2. ***M. filiforme.***
  Peristomii dentes breves pallidi............... 3. ***M. frigidum.***
  Peristomium nullum .... 4. ***M. paraphysatum.***
  Peristomium dubium .... 5. ***M. mexicanum.***

Sect. 2. GONIOSTOMA. *Rami simplices v. fasciculatim ramosi. Folia siccitate torta crispatave. Theca ore intensius colorato, subcarnosa. Calyptra elongata.*

Folia linearia, hamato-incurvata. Calyptra nuda. 6. ***M. goniopodium.***
Folia lanceolata, cellulis densis obscura. Calyptra parce ramentosa.
7. ***M. rhabdocarpum.***
Folia lanceolata v. ovato-oblonga, cellulis inter se remotiusculis vix obscura.
  Calyptra nuda.
    Folia lanceolata, apice obtusa, mucrone minuto.
8. ***M. filicaule.***
    Folia elongato-lanceolata, obtusiuscule acuta. 9. ***M. nitidum.***
    Folia lanceolata, sensim angustata .... 10. ***M. stratosum.***
    Folia lineari-lanceolata, acuta .... 11. ***M. Leprieurii.***
    Folia elongato-lanceolata, apice obtusiuscule acuta.
12. ***M. Richardi.***
    Folia anguste lanceolata, acuta .... 13. ***M. saxatile.***
    Folia ovato-oblonga, apice lato obtuse acutata.
14. ***M. insularum.***
  Calyptra pilosa .... 15. ***M. didymodon.***

Sect. 3. LEIOSTOMA. *Theca ore lævi, haud plicata. Calyptra elongata.*

Folia abrupte apiculata.
  Theca lævis.
    Calyptra nuda.
      Folia oblongo-ligulata, apice mucrone minuto.
16. ***M. tumidulum.***
      Folia oblongo-ligulata, abrupte obtusa retusave.
17. ***M. obtusum.***

Folia lineari-ligulata, obtusa, minute mucronata.
18. *M. Wagnerianum.*

Folia ligulata, obtusa, mucrone brevissimo 19. *M. brevipes.*

Folia ligulata, obtusa retusave .... 20. *M. mucronifolium.*

Folia oblongo-lanceolata, apice acuminata. 21. *M. microcarpum.*

Folia elongato-oblonga, obtuse apiculata. . 22. *M. pellucidum.*

Folia ligulata, obtusiuscula, breviter acuminata.
23. *M. apiculatum.*

Folia lineari-lanceolata, apice acuta serrato-dentata.
24. *M. Sumichrasti.*

Calyptra pilosa .... 25. *M. lævifolium.*

Theca plicata.

Folia ovali-ligulata, obtusa, mucrone parvo. . 26. *M. brachycarpum.*

Folia lineari-mucronulata .... 27. *M. tomentosum.*

Folia lanceolato-linearia, apice acuminata . . 28. *M. hymenostomum.*

Folia ovali-oblonga, obtusa, mucrone minuto. 29. *M. stellulatum.*

Folia oblongo-ligulata, obtusa, mucrone minuto.
30. *M. Swainsoni.*

Folia sensim acuminata.

Theca lævis.

Calyptra nuda.

Folia anguste lanceolata, sensim lineari-angustata, apice sensim acuta subacuminatave................ 31. *M. cirrhosum.*

Folia a basi latiore oblonga elongato-lanceolata, apice grosse dentato-serrata...................... 32. *M. ramosissimum.*

Folia a basi oblonga sensim angustata, apice acuminata, nervo excurrente .... 33. *M. pyriforme.*

Folia anguste oblongo-lanceolata, sensim angustata.
34. *M. Tocaremæ.*

Folia elliptico-lanceolata, apice sensim attenuata, nervo in pilum rufum excurrente.................. 35. *M. ulophyllum.*

Folia lanceolata, sensim longe angustata . . 36. *M. scoparium.*

Folia anguste lanceolata, sensim angustata, apice crenulata.
37. *M. prælongum.*

Folia lineari-lanceolata, apice latiuscule acuta.
38. *M. contextum.*

Folia anguste lanceolata, sensim longe angustata.
39. *M. dubium.*

Folia a basi oblonga, sensim angustata, elongata, serrulata.
40. *M. trichophyllum.*

Folia a basi paullulum latiore lanceolata, sensim angustata.
41. *M. microtheca.*

Folia lanceolata sensim ad apicem angustata, superne serrulata.
42. *M. flexuosum.*

Folia lanceolata, apice latiuscula, acutata breviter apiculatave.
43. *M. sublæve.*

Folia lanceolata, apice subacutata integerrima. 44. *M. negrense.*

Folia lanceolata, sensim acuminata, apice argute serrulata. 45. *M. ovale.*

Folia lanceolata, sensim longe lineari-angustata, margine superne serrulata .... 46. *M. jamaicense.*

Calyptra pilosa.

Folia lanceolata, subacuminata, apice serrulata. 47. *M. pentastichum.*

Folia lanceolata, acuta, superne argute serrata. 48. *M. argutum.*

Folia lanceolata, elongata, apice latiuscule apiculata, integerrima. 49. *M. cylindricum.*

Theca plicata.

Calyptra nuda.

Folia lanceolata, angusta, apice latiuscula, breviter acuminata, integerrima........................ 50. *M. crispatulum.*

Folia anguste lineari-lanceolata, apice obtusiuscule acuminata, superne crenulata .... 51. *M. longifolium.*

Folia oblongo-lanceolata, longiuscule angustata, apice tenuiter et argute serrata .... 52. *M. Regnelii.*

Folia anguste lanceolata, margine subcrenulata. 53. *M. oblongum.*

Folia anguste oblongo-lanceolata, apice latiuscula, serrulata, mucronata .... 54. *M. reflexifolium.*

Folia lineari-lanceolata, apice latiuscule acuta acuminatave, apice serrulata .... 55. *M. punctatum.*

Folia oblongo-lanceolata elongata, superne eroso-denticulata, tetrasticha .... 56. *M. attenuatum.*

Folia lineari-ligulata, apice acuminata, subintegerrima. 57. *M. macrothele.*

Folia elongate lanceolata, apice subacuminata. 58. *M. longirostre.*

Folia angustissime lineari-lanceolata, acuta subacuminatave, integerrima........................ 59. *M. aureum.*

Folia anguste lineari-lanceolata, apice latiuscule acuta, superne serrulata .... 60. *M. galipense.*

Folia lanceolata acuta latiuscula, margine flexuosa subundulata crenulata .... 61. *M. crenulatum.*

Folia late elliptico-lanceolata, in acumen piliforme sensim angustata........................ 62. *M. trachypodium.*

Folia lanceolata, sensim ad apicem angustata ibique subcrenulata. 63. *M. lævisetum.*

Folia lanceolata, acuta, margine crenulata. 64. *M. liberum.*

Folia elongato-lanceolata, acuta, superne crenulata.
65. *M. guatemalense.*

Folia a basi oblonga sensim angustata, apice latiuscula, subacuminata, crenulata........................66. *M. Trianæ.*

Folia lanceolata, apice latiuscula, acuta, serrulata.
67. *M. serrulatum.*

Folia lanceolata, sensim angustiora, apice angusta, superne serrulata ....68. *M. subscabrum.*

Folia lanceolato-subulata, apice angusta, a medio ad apicem crenulata serrulatave ....69. *M. stenophyllum.*

Folia lanceolata, acuta, margine serrulata pentasticha.
70. *M. Osculatianum.*

Calyptra pilosa.

Folia ovato-lanceolata lanceolatave, acuminata.
71. *M. Pœppigii.*

Folia elongato-lanceolata, apice subito truncata.
72. *M. perichætiale.*

Folia inferne oblongo-ovalia, exinde apicem versus sensim angustata vel latiuscule acuta, serrulata..........73. *M. proliferum.*

Folia a basi latiore subovali sensim angustata, elongata, apicibus angustissimis undulatis ....74. *M. frondosum.*

Folia lanceolata, sensim angustata, apice latiuscula acuta, a medio ad apicem serrulata..................75. *M. divaricatum.*

Folia lanceolata, acuta, apicem versus crenulata.
76. *M. penicillatum.*

Sedis incertæ ....77. *M. quinquefarium.*

Sect. 4. MICROMITRIUM. *Calyptra parva, conica.*

Folia elliptico-lanceolata, apice latiuscule acuta apiculove brevi terminata.
78. *M. fragile.*

Folia lanceolata, apice latiuscula acuta, flexuosa..79. *M. chimborazense.*

Sect. 1. *Macrocoma*, Hornsch.; C. Müll. Syn. i. 720.

1. **M. BRASILIENSE** (*Mitt.*). Monoicum. Folia patentia, incurva, ovato-lanceolata, acuta, apicem versus subcrenulata, nervo inferne flavo carinata, cellulis rotundatis obscuriusculis; perichætialia erecta, parum majora, paraphysibus paucis exsertis. Theca ovalis, lævis, collo sensim angustato, ore parvo intensiore fusco, peristomii externi dentibus brevibus.

Hab. Brasilia, *Gardner*, n. 12 (2), Parana, Fazenda de Fortaleza, in arbore ad marginem sylvæ (2000 ped.), *Weir*, n. 61; Brasilia absque loco speciali, *Sowerby*.

M. filiformi simillimum, sed calyptra ramentis destituta statim dignoscitur.

2. **M. FILIFORME** (*Hook. et Grev. in Brewst. Edinb. Journ.* i. 116, t. 4, Orthotrichum). Rami elongati, pinnatim ramosi. Folia patentia, ovato-

lanceolata, acuta, nervo obscuriore carinata, margine integerrima subrecurva, cellulis rotundis obscuris; perichætialia breviora. Theca in pedunculo breviusculo, elliptico-cylindracea, lævis, operculo acuminato; peristomium parvum; calyptra ramentis brevibus erectis pilosa.

Hab. Brasilia in monte Corcovado ad rupem siccam, *Gardner*, n. 57, *Sellow*; Chili, *Pœppig.*

Rami 2-unciales, ramulis 2–6-linearibus irregulariter pinnati. Folia fuscescentia, sicca arcte imbricata appressa.

3. M. FRIGIDUM (*C. Müll.*). Folia oblongo-ovata, nervo pellucidiore carinata, acuta, inferne caviuscula, basi contracta, margine minute crenulata, uno latere recurva, cellulis rotundis obscuriusculis; perichætialia conformia, patentia. Theca in pedunculo breviusculo basi paraphysibus exsertis cincto, parva, ovalis, plicata, operculo parvo acuminato; calyptra sparse pilosa.

Hab. Nova Granata, prov. Rio Hache, Sierra Nevada (10,000 ped.), *Schlim.*

Rami fasciculatim ramosi, ¾-unciales. Folia ½-linearia, fulva, sicca appressa. Pedunculus 2-linearis.

4. M. PARAPHYSATUM (*Mitt.*). Monoicum, decumbens, gracile, ramis ramulosis, apicibus luteo-viridibus, inferne fuscis. Folia patentia, sicca appressa, a basi latiore ovato-lanceolata acuta, nervo sub apice evanido carinata, margine basi recurvo crenulato apice subdenticulato integerrimove, cellulis omnibus rotundatis distinctis minute papillosis; perichætialia ovato-lanceolata, parum longiora, paraphysibus exsertis. Theca in pedunculo rubro, cylindracea, lævis, ore parvo, gymnostoma, operculo subulato; calyptra thecam totam obtegens, basi pallidior, ramentis rufescentibus copiosis subæquilongis vestita.

Hab. Andes Quitenses, ad pedes montis Tunguragua prope Baños et in monte Guayrapata (6000–8000 ped.), *Spruce*, n. 107. Ins. Chiloe, *Cuming.*

Habitus *M. microphylli* et *M. filiformis*, foliis autem basi magis rotundatis, calyptra ramentis copiosioribus, et peristomii defectu diversum.

5. M. MEXICANUM (*Mitt.*). Monoicum. Folia patentia, siccitate appressa, a basi latiore sensim angustata, lanceolata, acuta, margine versus apicem crenulato, nervo fusco carinata, cellulis rotundatis ubique distinctis; perichætialia paullulum longiora, conformia. Theca cylindracea; calyptra ramentis obtecta.

Hab. Mexico, Oaxaca, *Herb. Van den Bosch.*

M. filiformi habitu simile, sed foliis angustioribus ubique pellucidis crenulatis, apicibus acutis pungentibus diversa.

Sect. 2. *Goniostoma.*

6. M. GONIOPODIUM (*Mitt.*). Rami humiles, fasciculatim ramosi. Folia densa, patentia, hamato-incurvata, linearia, obtusiuscule acuta, carinata, integerrima, cellulis superioribus rotundis obscuris, basilaribus paucis

elongatis pellucidis; perichætialia conformia. Theca in pedunculo brevi crassiusculo tetragono, ovalis, plicata, ore coarctata; calyptra nuda.

Hab. Brasilia tropica, ad cortices, *Burchell*, n. 1003.

Rami 2–3 lineas alti. Folia linea paulo longiora, sicca involuto-crispata, nigro-viridia. Pedunculus 2-linearis.

Species parva, habitu *M. lingulari* et *M. erosulo* Floræ Novæ Zealandiæ simillima.

7. M. RHABDOCARPUM (*Mitt.*). Monoicum, caulis repens, ramis inordinatis laxe cæspitosis. Folia sicca crispata, humida patenti-divergentia, apicibus subincurvis, lanceolata, apice acuta, nervo flavo carinata, marginibus minute crenulatis, cellulis basi oblongis pellucidioribus, superioribus rotundatis papillosis; perichætialia erecta, apicibus sensim angustatis acutioribus patentibus. Theca in pedunculo elongato, ovalis, plicata, collo sensim angustato, ore coarctato, operculo subulato; calyptra parce ramentosa, thecam ad basin usque obtegens.

Hab. Andes Quitenses, Antombos, *Spruce.*

Folia luteo-viridia, mollia, tenera. Habitus *M. didymodontis, M. nitidique.* Theca per totam longitudinem plicata, plicis etiam in pedunculo descendentibus.

8. M. FILICAULE (*C. Müll. Syn.* i. 745). Rami breves, fasciculatim ramosi. Folia a basi usque ad medium erecto-patentia, inde recurva, semitorta, divergentia, nervo carinata, margine integerrimo erecto recurvove, cellulis in parte erectiore elongatis angustis, in parte superiore rotundis, parietibus latis pellucidis; perichætialia erecta, latiora, apice in mucronem elongatum angustum contracta. Theca in pedunculo elongato, breviter ovalis, lævis, ore rubiginoso, operculo subulato, peristomii dentibus brevibus pallidis.

Hab. Brasilia, *Gardner*, n. 53 *b*.

Rami 2–3 lineas alti. Folia ½ lineam longa, viridia, sicca hamato-inflexa, in seriebus spiraliter imbricata. Pedunculus 4-linearis. Theca intense fusca. Generis pulcherrima species.

9. M. NITIDUM (*Hook. et Wils. in Hook. Lond. Journ.* iii.). Monoicum; rami breves, fasciculatim ramosi. Folia erecto-patentia, apice incurva, carinata, margine inferne uno latere recurva, cellulis superioribus parvis rotundis obscuris, inferioribus pluribus elongatis angustis; perichætialia longiora latioraque, acuminata, acuta. Theca in pedunculo elongato, breviter ovalis, lævis, ore rubiginoso, peristomii dentibus parvis pallidis.

Hab. Brasilia, Rio de Janeiro, *Gardner*, n. 52.

Rami 2–3 lineas alti. Folia flavo-viridia, fere lineam longa, sicca hamata appressa imbricata. Pedunculus 5-linearis. *M. didymodonti* simile, theca autem ore tantum plicata.

10. M. STRATOSUM (*Mitt.*). Monoicum; rami decumbentes, cæspitosi, fasciculatim ramosi. Folia densa, patentia, apicibus incurvis, siccitate

appressa, curvata, dimidio inferiore subovali, apice acuta, nervo rufescente carinata, integerrima, cellulis inferioribus elongatis, superioribus parvis quadratis rotundatisque; perichætialia erecta e basi latiore subulata, pallidiora. Theca in pedunculo elongato, pyriformis, operculo subulato.

Hab. Jamaica, *Maxwell.*

Rami ½–1½-unciales. Pedunculus 8-linearis. *M. Reinwardti* simillimum, foliis tamen versus apicem angustioribus et basi cellulis omnibus elongatis distinctum.

11. M. LEPRIEURII (*Mont. in Ann. Sc. Nat.* ser. 1. xiv. 347, t. 20). Rami humiles, fasciculatim ramosi. Folia linearia, acuta, elongata, carinata, margine inferne uno latere recurva, superne subintegerrima, cellulis superioribus oblongis, inferioribus elongatis angustis; perichætialia superne angustiora. Theca in pedunculo elongato cylindracea, lævis.

Hab. Guiana Gallica, ad truncos arborum circa Cayennam, *Leprieur*, *ex Herb. Montagne.*

Rami 3–4 lineas alti. Folia rubiginosa, lineam longa. Pedunculus ¾-uncialis. Inter species hujus gregis foliorum cellulis superioribus oblongis et forma thecæ elongata memorabile.

Compared by C. Müller with *M. dubium.*

12. M. RICHARDI (*Schwægr.* t. 173). Rami breves, fasciculatim ramosi. Folia a basi erectiore patentia, apice incurva, carinata, margine cellulis prominulis crenulata, cellulis superioribus rotundis obscuris, basilaribus paucis elongatis lævibus; perichætialia æquilonga, erecta, acuminata. Theca in pedunculo elongato, breviter ovalis, plicata; peristomii dentibus brevibus, pallidis.

Hab. Guiana, *Richard.* Brasilia, Rio de Janeiro, *Gardner.*

Icon Dubyana, Choix de Crypt. Exot. t. 2. f. 3, formam foliorum minus quam illa Schwægricheni rite exprimit.

13. M. SAXATILE (*Mitt.*). Rami breves, fasciculatim ramosi. Folia erecto-patentia, incurva, nervo excurrente carinata, margine inferne uno latere recurva, integerrima, cellulis superioribus rotundis inter se parietibus pellucidioribus discretis, inferioribus elongatis angustis; perichætialia longiora latioraque, erecta, sensim acuminata. Pedunculus breviusculus. Theca ovalis, lævis, ore plicata, operculo subulato, peristomii dentibus brevibus albidis 16.

Hab. Ins. Juan Fernandez, ad saxa locis umbrosissimis collium, *Bertero.*

Rami 3–4 lineas alti. Folia viridia, ½ lineam longa, sicca hamata appressa imbricata, subnitida. Pedunculus 3-linearis.

14. M. INSULARUM (*Mitt.*). Rami ramosi, cæspitosi. Folia laxe inserta, patentia, apicibus incurvis, siccitate appressa involutaque, nervo flavo carinata, integerrima, cellulis basi paucis ovoideis, reliquis omnibus rotundatis parvis, superioribus obscuris; perichætialia ovata, acuta. Theca

in pedunculo aurantiaco brevi, ovata, ore coarctata plicata, operculo subulato.

Hab. Ins. Guadelupe, *Parker in Herb. Hook.*; San Domingo, *Montagne in Herb. Mitten.*

Rami graciles, ½–1-unciales. Folia brevia, viridia, in ramorum apicibus hamato-incurva. Habitu *M. didymodonti* affine, sed minor.

15. M. DIDYMODON (*Schwægr.* t. 190). Monoicum; rami fasciculatim ramosi. Folia a basi erectiore recurvo-patentia, apice erecta, lanceolato-ligulata, obtusiuscula, nervo carinata, margine cellulis parum prominulis crenulata, inferne uno latere recurva, cellulis superioribus rotundis obscuris, inferioribus oblongis, basilaribus paucis elongatis fere lævibus; perichætialia æquilonga, erecta, acuta. Theca in pedunculo elongato, ovalis, plicata, ore intensius colorata, peristomii dentibus brevibus pallidis geminatis; calyptra ramentis paucis sparsis pilosa.

Hab. Andes Quitenses, Playa del Rio Blanco, *Spruce*, n. 96. Brasilia, Novo-Friburgum, *Beyrich.* Sierra dos Orgaos, *Gardner*, n. 54. Rio de Janeiro, *Heward, Milne.* Ins. Sancta Catharina, *Pabst.*

Rami ½ unciam alti, subfastigiatim fasciculati. Folia lineam longa, flavo-viridia, senectute rubiginosa, sicca contorta. Pedunculus 4–5-linearis, rufus. Theca ¾ lineam longa, fusca. Calyptra straminea, apice fuscescens.

Sect. 3. *Leiostoma.*

16. M. TUMIDULUM (*Mitt.*). Rami humiles, densifolii, ramosi. Folia patenti-divergentia, in ramorum apicibus stellatim expansa, nervo carinata, alis turgide convexis margine integerrimis, cellulis a basi usque ad apicem rotundis, versus basin papilliferis, paucis ad margines elongatis pellucidioribus lævibus; perichætialia conformia, breviora. Theca in pedunculo breviusculo subovali-turbinata, ore magno, gymnostoma, operculo subulato.

Hab. Andes Peruvianæ, Tarapoto in truncis præcipue *Crescentiæ*, rarius ad rupes; etiam in ripis fl. Huallaga ad Yurimaguas (1000 ped.), *Spruce*, n. 101.

Rami 2–3 lineas alti. Folia viridia, inferiora fuscescentia. Pedunculus 2-linearis. Theca fusca.

17. M. OBTUSUM (*Mitt.*). Rami breves, cæspitosi, apicibus viridibus, inferne rubiginosi. Folia dense inserta, patentia, apice recurva, siccitate appressa incurva subtorta, apiculo minuto terminata, superne plicis parvis flexuosis pluribus notata, nervo luteo carinata, integerrima, cellulis basi paucis elongatis angustis, superioribus minutis rotundatis obscuriusculis lævibus; perichætialia breviora, erecta. Theca in pedunculo brevi, ovalis, evacua suburceolata, collo sensim angustato plicato, ore satis magno, gymnostoma, operculo subulato.

Hab. Fl. Amazon. Caripi et Para, *Spruce*, n. 111; Guiana, *Richard, Herb. Hooker.*

Rami 3–4-lineares. Pedunculus 2-linearis. Species parva, habitu *M. prorepenti* similis, sed structura foliorum et thecæ forma *M. Wagneriano* et ejus affinibus omnino conveniens. Folia triente breviora quam illa *M. Wagneriani.*

18. M. WAGNERIANUM (*C. Müll. Syn.* ii. 642). Rami humiles. Folia patentia, nervo percurrente carinata, integerrima, cellulis superioribus rotundis parvis, basilaribus ad margines angustis, exinde fere ad folii longitudinis medium limbum indistinctum formantibus; perichætialia breviora, latiora, acutiora. Theca in pedunculo brevi, urceolata, operculo subulato, peristomio nullo.

Hab. Ins. Jamaica, *Heward*; Venezuela, Galipan, ad arbores (4000 ped.), *Wagner.* Guiana, *Schomburgk.*

Rami 2-lineares. Folia $\frac{2}{3}$ lineam longa, sicca crispato-contorta, viridia fuscescentia. Pedunculus $1\frac{1}{2}$-linearis.

19. M. BREVIPES (*C. Müll. Syn.* i. 728). Rami breves. Folia densa, patentia, nervo percurrente subcarinata, integerrima, cellulis rotundatis obscuris, ad basis margines paucissimis elongatis pellucidioribus; perichætialia conformia, interna breviora. Theca in pedunculo brevi, ovalis, "gymnostoma, operculo breviter aciculari recto."

Hab. Ins. Guadelupe, *Bertero, ex Herb. C. Müller*; Martinique, *Herb. Fée*; Trinidad, *Crüger.*

Rami 3–6-lineares. Folia lineam longa, sicca spiraliter contorta, juniora luteo-viridia, seniora fulva fuscescentia. Pedunculus 2-linearis.

Similar to *M. mucronifolium*, but with leaves more plane and smooth.

20. M. MUCRONIFOLIUM (*Hook. et Grev. in Brewst. Edin. Journ.* i. 116, t. 4). Rami breves. Folia patula, apice recurva, nervo carinata, alis convexis superne longitudinaliter rugulosis, integerrima, cellulis minutis rotundis obscuris, inferioribus ad margines paucis elongatis; perichætialia latiora, parum acutiora. Theca in pedunculo brevi, urceolata.

Hab. Ins. Cuba, *Wright*, n. 50; Trinidad, *Crüger*; Martinique, *Sieber*; Jamaica, *Purdie*; Sti. Vincentis, *Guilding*; Barbadoes, *Parker*; Guiana, *ex Herb. Montagne*; Surinam, *ex Herb. Dozy.* Fl. Amazon, Caripi, *Spruce*, n. 99.

Rami 2-linearis, densifolii. Folia viridia rufescentia. Pedunculus 3-linearis.

Leaves twice as wide as those of *M. Wagnerianum.*

21. M. MICROCARPUM (*C. Müll. Syn.* i. 727). Rami breves, graciles, ramosi. Folia patentia, dense inserta, nervo sub apice in carina sepulto, subcucullata, integerrima, cellulis superioribus rotundis obscuris, inferioribus oblongis pellucidioribus; perichætialia conformia. Theca in pedunculo brevi, ovalis.

Hab. Chili, *Pœppig ex Herb. C. Müller.*

Rami 2–3 lineas alti. Folia ½ lineam longa, fuscescentia. Pedunculus 2-linearis.

22. M. PELLUCIDUM (*Mitt.*). Rami breves, congesti, cæspitosi. Folia dense inserta, patentia, apice recurva, siccitate appressa vix torta, elongate oblonga, obtusa, apiculata, nervo flavo carinata, integerrima, cellulis basi angustis elongatis, superioribus oblongis pellucidis lævibus.

Hab. Fl. Uaupes, Panuré ad arbores, *Spruce*, n. 80.

M. lævifolio affine, foliis autem angustioribus apicibus recurvis.

23. M. APICULATUM (*Hook. Musc. Exot.* t. 45). Rami fasciculatim ramosi, elongati. Folia patentia, recurva, nervo carinata, alis convexis, cellulis rotundis parvis obscuriusculis, ad latera basilaria paucis angustis pellucidioribus, exinde ultra folii medium limbum angustissimum formantibus; perichætialia breviora, erecta, ovata, acuta. Theca in pedunculo longiusculo, ovalis, ore ampliata, basi senectute plicata, operculo subulato, peristomio e membrana truncata brevi composito.

Hab. Mexico, Xalapa, regione temperata, *Humboldt et Bonpland*; Guatemala, *Friedrichsthal*, n. 85; Costa Rica, Cartayo (5000 ped.), *Œrsted.* Andes Bogotenses, in descensu a planitie Bogotensi ad Fusagusugam (8600 ped.), ad arbores, *Weir*, n. 234; Brasilia, *Beyrich*; Sierra dos Orgaos, *Gardner*, n. 58.

Rami 1–2-unciales. Folia viridia fulvo-fuscescentia, sicca laxe contorta. Pedunculus 3–4 lineas longus. Theca evacua suburceolata.

24. M. SUMICHRASTI (*Duby, Choix Crypt. Exot.* 7, t. 3. f. 1). Dioicum, plus minus dense pulvinatum, unciale et altius, prorepens, ramis erectis simplicibus aut 1–2 ramulis erectis brunneo-fuscis, apice autem viridibus cylindricis strictis rigidis aut subincurvis, ubique dense foliatis. Folia imbricata, sicca subspiraliter contorta, madore plano-incurva, rigida, fragilia, elongata, non marginata, nervo fere usque ad apicem producto aureo, cellulis superioribus rotundatis opacis granulosis, mediis quadrato-rotundis confertissimis, inferioribus elongatis parallelogrammicis, omnibus facie externa papillis grossis onustis; perichætialia e basi lanceolata, longe elongata, aristata, subintegra, interna enervia, externa plica usque ad medium producta, cellulis usque ad basin magis et magis elongatis angustis. Seta semiuncia longior, glabra, erecta, tenuissima. Theca pedicello 3–4-plo brevior, primum ovato-cylindrica, demum globoso-urceolata, lævissima, lutescens, operculo e basi conico-globosa recto aciculari, thecæ longitudine; calyptra aurea, a medio multifida glaberrima, thecam totam obtegens, peristomium simplex e membrana truncata hyalina brevi compositum.—*Duby, l. c.*

Hab. Mexico, in terris calidis ad arbores, *Sumichrast*.

25. M. LÆVIFOLIUM (*Mitt.*). Caulis intertextus; rami breves, procumbentes, cæspitosi. Folia dense inserta, patentia, ovali-oblonga, siccitate

appressa subtorta, apicibus obtusis apiculo minuto terminatis, longitudinaliter undulata, integerrima, nervo flavo carinata, cellulis basi elongatis angustis, superioribus oblongis, apice paucis rotundatis lævibus pellucidis; perichætialia erectiora, apice acuminata. Theca in pedunculo elongato, ovalis, lævis, operculo subulato; calyptra parce ramentosa.

Hab. Ad fluv. Pacimoni, Venezuelæ, *Spruce*, n. 103. Guiana, *Schomburgk in Herb. Hook.*

Folia siccitate cauli appressa subtorta, e substantia pellucida.

26. M. BRACHYCARPUM (*Mitt.*). Rami humiles. Folia patentia, dense inserta, carinata, alis convexis, integerrima, cellulis superioribus parvis rotundis, inferioribus parum longioribus basin versus grosse papilliferis, uno latere ad nervum paucis laxioribus lævibus; perichætialia latiora, acutiora, erecta. Theca in pedunculo elongato, subturbinata, ore magno, operculo subulato, peristomii dentibus pallidis brevibus; calyptra nuda.

Hab. Andes Peruvianæ, Tarapoto, *Spruce.*

Rami ¼–1½-uncialis. Folia viridia rufescentia, sicca appressa contorta. Pedunculus 3-linearis.

27. M. TOMENTOSUM (*Hornsch. in Mart. Fl. Bras. Musc.* 21). Dioicum, repens, dense pulvinatum, tomentosum, ramis erectis subsimplicibus, inferne radiculoso-tomentosis, superne foliosis. Folia densa, erecta, apice paullo incurva, sicca tortilia, lineari-mucronulata, carinata, basi ad medium denticulata, apicem versus integerrima, inferiora fusca, suprema luteo-viridia, nervo subevanido, cellulis circularibus minutis seriatis. Theca in pedunculo vix semiunciali purpurascente erecta, oblongo-cylindrica, angusta, 4-sulcata, sicca tortilis, purpurascens, operculo subulato recto duplo breviore luteo-albo; calyptra theca dimidio fere brevior, glabra, sulcata, lobis 8 ovatis brevibus, inferne ferruginea, superne fusca; peristomii simplicis membrana tenera, integra, reticulata, albida, subhyalina, apice fatiscens.

Hab. Brasilia, in campis Montevidensibus, *Sellow.*

28. M. HYMENOSTOMUM (*Mont. in Ann. Sc. Nat.* ser. 3. iv. 130). Rami graciles, cæspitosi. Folia patentia, nervo percurrente carinata, margine recurva, integerrima, cellulis omnibus rotundatis parvis, parietibus crassiusculis; perichætialia caulinis conformia, erecta. Theca in pedunculo brevi, ovalis, operculo subulato, peristomio e membrana altiuscula integra truncata composito; calyptra nuda.

Hab. Chili, *Herb. Montagne*; Fuegia, Cape Horn, *Davis.*

Rami ¼–1 unciam alti. Folia rubiginosa, sicca contorta appressa. Pedunculus 2-linearis.

29. M. STELLULATUM (*Brid.* 314 et 741). Rami fasciculatim ramosi, humiles. Folia dense inserta, patenti-divergentia, in ramorum apicibus stellata, carinata, alis tumide convexis, integerrima, cellulis superioribus rotundis parvis obscuris, inferioribus oblongis pellucidioribus, basin versus

papillis grossis aculeiformibus armatis, uno latere ad nervi basin paucis majoribus pellucidioribus; perichætialia conformia. Theca in pedunculo elongato, ovali-oblonga, operculo subulato, peristomii dentibus pallidis carnosis, basi inter se adhærentibus, peristomii interni æquilongis hyalinis minutissime punctulatis; calyptra thecæ $\frac{2}{3}$ obtegens, nuda.

Hab. Fl. Orinoco, *Herb. Willdenow.* Brasilia, *Pohl*; prov. Goyaz, prope Arrayas, *Gardner*, n. 60.

Rami 3–6-lineares, in cæspites compactos congesti. Folia mox rubiginoso-fuscescentia, sicca appresse contorta, $\frac{3}{4}$-linearia.

30. M. Swainsoni (*Hook. Musc. Exot.* t. 127, Orthotrichum). Folia patenti-divergentia, carinata, alis superne tumide convexis, margine integerrima, cellulis superioribus rotundis obscuris, inferioribus pellucidioribus parvis suboblongis; perichætialia conformia, parum acutiora. Theca in pedunculo elongato, ovalis, plicata, operculo subulato, peristomio simplici, dentibus pallide fuscis; calyptra nuda.

Hab. Ins. Cuba, *Doring*; Nova Granata, S. Martha, *Purdie*; ad viam inter Bogota et Fusagusuga (6000 ped.), *Weir*, n. 124; ad fl. Sagamoza, prope Marta ad truncos et in ramis arborum (800 ped.), *Weir*, n. 141.

Rami $\frac{1}{2}$ unciam alti. Folia $\frac{3}{4}$ lineam longa, viridia rufescentia, sicca appressa, contorta, imbricata. Pedunculus 5-linearis.

M. stellulato simillimum, peristomio autem simplici.

31. M. cirrhosum (*Sw. Prod. Fl. Ind. Occ.* 142, Hypnum; *Schwægr.* t. 201). Rami graciles, simplices dichotomive. Folia patenti-divergentia, nervo percurrente carinata, margine superne minute serrulata, cellulis superioribus parvis ovali-rotundis veluti in seriebus elevatis dispositis, inferioribus oblongis elongatis papilliferis; perichætialia conformia, longiora. Theca in pedunculo brevi, globoso-pyriformis, operculo subulato, peristomii dentibus brevibus basi subadhærentibus, interno conformi tenerrimo.

Hab. Ins. Jamaica, *Swartz, Maxwell, Wilson, Macfadyen*; Cuba, *Wright*, n. 51; Panama, *Seemann*; Brasilia, Sierra dos Orgaos, *Gardner*, n. 70; Parana, Fazenda do Tucanduva ad arbores (2000 ped.), *Weir*, n. 3.

Rami unciales, ut plurimum inferne decumbentes. Folia $1\frac{1}{2}$-linearia, sicca laxe crispata, e viridia fulvescentia. Pedunculus 4-linearis. Theca parva, castanea.

32. M. ramosissimum (*Mitt.*). Laxe cæspitosum, ramosissimum, elatum, sesquiunciale, rufescenti-viride; caulis adscendens, interrupte tomentosus, laxe foliatus. Folia basi margine parum revoluta concava, flaccida, undulata, recurva, canaliculata, basi integerrima, nervo percursa pallide lutescente apice evanido, cellulis basilaribus elongato-quadratis pellucidis, in lamina superiore dense aggregatis angulato-rotundatis, papillosis, diaphanis.

M. undulatum, *Hampe in Ann. Sc. Nat.* ser. 5. iv. 332.

Hab. Andes Bogotenses, Pacho (2200 metr.), *Lindig.*

Ab omnibus differt caule ramosissimo flaccido et foliis undulato-crispulis, versus apicem grosse dentato-serratis; prope *M. argutum* Hampe.—*Hampe, l. c.*

A *M. undulato* Hook. et Grev. longe diversum est.

33. **M. PYRIFORME** (*C. Müll. Syn.* ii. 644). Rami elongati, ramosi. Folia divergentia, apice incurva, basi erectiora, carinata, margine inferne uno latere recurva, cellulis superioribus ovali-rotundis veluti in lineas dispositis obscuris, inferioribus elongatis papilliferis pellucidis; perichætialia interna erecta, lanceolata, acuta. Theca in pedunculo elongato, pyriformis, peristomii dentibus "densissime approximatis carnosis robustis opacis rugulosis."

Hab. Venezuela, Galipan, ad arbores, *Wagner ex Herb. C. Müller.*

Rami decumbentes, ramosi, unciales. Folia 1½ lineam longa, sicca crispata contorta. Pedunculus 7–8-linearis.

34. **M. TOCAREMÆ** (*Hampe in Linnæa,* xxxi. 524). Rami superne ramosi. Folia a basi erectiore oblonga, patentia, nervo carinata, margine superne parum erosa, cellulis superioribus parvis rotundis, inferioribus elongatis papilliferis, paucis ad nervi basin uno latere majoribus rectangulis; perichætialia latiora, erecta, acuta. Theca in pedunculo elongato, ovalis, operculo subulato, peristomii "dentibus externis lanceolatis solidis erectis aurantiacis, internis ciliis brevissimis subconcoloribus."

Hab. Andes Bogotenses, monte del Morro (2200 metr.), *Lindig*; in sylvis supra Pacho ad arbores (5800 ped.), *Weir,* n. 245.

Rami unciales. Folia 1½-linearia, sicca crispato-contorta. Pedunculus 4–6 lineas longus.

35. **M. ULOPHYLLUM** (*Mitt.*). Rami laxe cæspitosi, ramosi. Folia a basi erectiore sensim patentia, flexuosa, siccitate immutata, subnitentia, nervo angusto rufo excurrente, marginibus valde undulatis, a medio ad apicem limbo tenui serrulato, e cellulis angustis pallidioribus, cellulis basilaribus elongatis papillis grossis, superioribus paullulum brevioribus, apice oblongis, omnibus distinctis pellucidis folium tenerum pellucidum formantibus; perichætialia conformia. Theca in pedunculo elongato rubro, breviter ovalis; calyptra nuda.

Hab. Andes Quitenses, Abitagua (6000 ped.), *Spruce,* n. 94.

Rami 1–1½-unciales, apice flavo-virides, inferne rufescentes. Folia 2-linearia. Pedunculus uncialis. Species e pulcherrimis.

36. **M. SCOPARIUM** (*Mitt.*). Rami elongati. Folia densa, a basi erectiore patentia divergentiaque, siccitate patentia stricta, singula spiraliter torta, nervo rufo subcarinata, margine superiore argute serrulata, cellulis basilaribus angustis, superioribus omnibus elongatis oblongisque pellucidis; perichætialia longiora. Theca in pedunculo rubro, pyriformis, ore parvo.

Hab. Ins. Jamaica, *Wilds*; Trinidad, *Crüger.*

Rami 1½ unciam alti. Folia densa, 3-linearia, angusta, apicibus angustissimis nitida.

37. M. PRÆLONGUM (*Mitt.*). Rami laxe cæspitosi, ramosi, curvati. Folia a basi erectiore patentia, siccitate curvata, nervo flavo carinata, marginibus apicem versus crenulatis, cellulis basi elongatis papillis grossis paucis, superioribus omnibus oblongis in lineas rectas dispositis distinctis; perichætialia longiora, conformia. Theca in pedunculo gracili globoso-pyriformis.

Hab. Ins. Sti. Vincentis, in devexis montis S. Andrew, *Guilding*; Jamaica, *Wilson*; S. Christopheri, *Breutel*; Dominica, *Herb. Hooker.*

Rami 1–3-unciales. Folia 2-linearia, exsiccatione parum torta, parum crispata, luteo-viridia fulvescentia, demum fusca. Pedunculus 3-linearis. Theca parva.

38. M. CONTEXTUM (*Hampe in Ann. Sc. Nat.* ser. 5. iv. 331). Rami depresse cæspitosi. Folia a basi erectiore recurva, divergentia, nervo carinata, margine cellulis prominulis crenulata, supra folii medium denticulis serrulata, cellulis superioribus parvis rotundatis, inferioribus papilliferis, basilaribus infimis paucis elongatis, uno latere ad nervum nonnullis majoribus; perichætialia externa longiora, obtusiuscule acuta, interna æquilonga angustiora acutiora. Theca in pedunculo brevi, ovali-elliptica, operculo subulato, peristomio "simplici, externo dentibus 8, per paria conniventibus, demum discretis reflexis brevibus lanceolatis trabeculatis flavescentibus."

Hab. Nova Granata, Rio Negro in sylvis ad arbores cæspites latos formans (1200 metr.), *Lindig.*

Caules arcte repentes, tomento radicellarum obtecti. Rami ½-unciales. Folia lineam longa, viridia, sicca crispato-contorta. Pedunculus 4-linearis. Theca cinnamomea, post operculi delapsum sub ore paullulum constricta.

39. M. DUBIUM (*Schimp.*; *C. Müll. Syn.* i. 723). Rami robusti, densifolii, fastigiatim ramulosi. Folia laxe patentia, nervo percurrente carinata, margine superne erosa, inferne reflexa, cellulis ubique angustis elongatis; "perichætialia breviora. Theca in pedunculo elongato intense purpureo, majuscula, ovalis, nitida, fusca (gymnostoma ?), operculo longe subulato recto; calyptra parum angulata."

Hab. Ins. S. Christopheri in montibus ad arborum truncos, *Herb. Schimper.*

Folia 3-linearia, fulva.

Of this a few leaves only have been seen; and these were from C. Müller.

40. M. TRICHOPHYLLUM (*Mitt.*). Rami elongati, graciles, flexuosi, ramosi, procumbentes. Folia laxe inserta, a basi erecta cauli appressa patentia divergentiaque, siccitate immutata, nervo rufo vix carinata, marginibus fere ad basin usque argute serrulatis, cellulis ubique elongatis angustis

flavidis pellucidis; perichætialia conformia. Theca in pedunculo rubro, pyriformis, lævis, collo plicato, operculo subulato, peristomii dentibus adglutinatis; calyptra nuda.

Hab. Andes Quitenses, in Cordillera occidentali, Chimborazo (3000 ped.), *Spruce*, n. 92.

Rami 2–3-unciales, procumbentes, laxe cæpitosi, graciles. Folia 3-linearia, angustissima. Pedunculus ½-uncialis.

41. M. MICROTHECA (*Mitt.*). Rami breves, ramosi, pulvinatim cæspitosi. Folia patentia erecto-patentiave, sicca tortuosa, nervo fuscescente carinata, marginibus superioribus crenulatis, cellulis basi elongatis angustis papillis grossis, superioribus oblongis; perichætialia longiora, conformia. Theca in pedunculo rubro, breviter ovalis, ore satis magno, peristomio brevi, dentibus liberis flavis.

Hab. Andes Quitenses, in sylva Canelos (4000 ped.), *Spruce*, n. 85.

Rami ½-unciales. Folia 2-linearia. Pedunculus 3-linearis.

A *M. cirrhoso* foliis minus crispatis siccitate laxe subtortis recedit. Habitu *Ulotam Bruchii* refert.

42. M. FLEXUOSUM (*Mitt.*). Rami cæspitosi, subsimplices. Folia densa, a basi erectiore patentia, nervo flavo carinata, marginibus a medio ad apicem serrulatis, cellulis basi angustis papillis paucis grossis, superioribus oblongis, omnibus pellucidis; perichætialia longiora, conformia. Theca in pedunculo elongato rubro, ovalis, operculo subulato, peristomio brevi.

Hab. Andes Quitenses, in sylva Canelos (3000 ped.), *Spruce*, n. 98.

Rami 1-unciales, superne luteo-virides, inferne fusci. Folia 3-linearia, angusta. Pedunculus 9-linearis, gracilis.

A *M. cirrhoso* foliis versus apicem angustioribus, cellulis haud quasi in lineas longitudinales dispositis et theca in pedunculo longiore ovali diversum.

43. M. SUBLÆVE (*Mitt.*). Rami ramosi, dense cæspitosi. Folia patenti-incurva, siccitate crispata, margine apicem versus crenulato, nervo luteo carinata, cellulis basi ad margines elongatis, interioribus oblongis, uno latere ad nervum paucis majoribus pellucidioribus, superioribus rotundatis distinctis; perichætialia breviora, ovato-lanceolata, acuta. Theca in pedunculo rubro, ovalis, collo sensim attenuato, ore magno, sicca suburceolata, operculo subulato, peristomio externo dentibus pallidis inferne adhærentibus, interno hyalino subæquilongo.

Hab. Andes Quitenses, fl. Pastasa superius ad pontem Agoyán, et Antombos (5000 ped.), *Spruce*, n. 105.

Rami ½–1½-unciales, superne aurei, inferne intense fusci. Pedunculus ½-uncialis. Theca striis indistinctis notata sed lævis. Habitu et colore *M. macrotheli* similis, sed major.

44. M. NEGRENSE (*Mitt.*). Rami cæspitosi. Folia dense inserta,

patenti-divergentia, apicibus subincurvis siccitate crispatis, nervo flavo ad apicem usque carinata, cellulis basi elongatis, ad margines angustioribus, interioribus latioribus grosse papilliferis, superioribus rotundatis distinctis; perichætialia breviora, ovato-lanceolata, erecta, acuta. Theca in pedunculo rubro, breviter ovalis, operculo subulato, peristomio brevi; calyptra thecam totam obtegens.

Hab. Fl. Negro, secus ostia, ad arbores rivuli Igarapé da Cachoeira, *Spruce*, n. 106.

Rami vix unciales, subsimplices. Folia superiora luteo-viridia, inferne pallide fusca. Pedunculus $\frac{1}{2}$-uncialis.

45. M. OVALE (*Mitt.*). Rami breves. Folia densa, a basi erectiore patentia, superiora angustiora, nervo flavo percursa, cellulis basilaribus angustis, papillis paucis grossis, superioribus parvis rotundatis obscuriusculis; perichætialia conformia. Theca in pedunculo rubro, ovalis, ore parvo, operculo subulato.

Hab. Andes Quitenses, in sylva Canelos (3000 ped.), *Spruce*, n. 98.

Rami $1\frac{1}{2}$-unciales. Folia 2-linearia, siccitate appressa. Pedunculus $\frac{1}{2}$-uncialis.

46. M. JAMAICENSE (*Mitt.*). Rami graciles, simplices divisive. Folia patentia, nervo carinata, inferne uno latere reflexa, cellulis superioribus rotundatis, inferioribus oblongis elongatisque grosse papilliferis; perichætialia conformia, longiora. Pedunculus breviusculus. Theca parva, breviter ovalis, operculo subulato, peristomii dentibus brevibus, interni totidem similibus punctulatis.

Hab. Ins. Jamaica, *Wilson*, n. 832; ex insulis Indiæ occidentalis, *Herb. Brown.*

Rami unciales. Folia $1\frac{1}{2}$–2 lineas longa, sicca contorta, viridia fuscescentia. Pedunculus 4-linearis.

47. M. PENTASTICHUM (*C. Müll. Syn.* i. 731). Rami elongati, ramosi. Folia plus minus conspicue pentasticha, a basi erectiore recurva patentia, apice incurvata, nervo carinata, margine superne flexuosa crenulata, cellulis superioribus rotundis subobscuris grossiusculis, basilaribus paucis oblongis; perichætialia interna erecta multo longiora, sensim angustata. Theca in pedunculo breviusculo, ovalis, operculo breviter subulato, peristomii dentibus brevibus basi adhærentibus apice truncatis recurvis; calyptra profunde fissa, ramentis obtecta.

Hab. Mexico, Oaxaca et Mirador, *Herb. Dozy*. Ins. Gorgona et Taboga, *Seemann*. Ins. Jamaica, *Wilson*, n. 831; Surinam, *Kegel*. Andes Quitenses, in monte Chimborazo in sylvis Cinchonæ, *Spruce*.

Rami 1–2-unciales. Folia $1\frac{1}{2}$ lineam longa, luteo-viridia fulvescentia fuscaque, sicca contorta. Pedunculus 4-linearis.

48. M. ARGUTUM (*Hampe, in Linnæa*, xxii. 581). Rami erecti, breves.

Folia conferta, humida patenti-erecta undulato-torta, sicca uncinato-tortilia erecta.—*C. Müll. Syn.* ii. 647.

Hab. Brasilia, prov. Minarum Generalium prope Caldas, *Regnell.*

Ex observationibus auctoris *M. angustifolio* affine.—*C. Müll. l. c.*

49. M. CYLINDRICUM (*Mitt.*). Rami cæspitosi. Folia laxe inserta, patentia, siccitate tortuosa, flexuosa, nervo flavido carinata, integerrima, cellulis basi ad margines tantum paucis elongatis, ad nervum paucis oblongis majoribus, cæteris omnibus rotundatis, superioribus minoribus distinctis inter se remotiusculis folium subpellucidum formantibus; perichætialia breviora, apice acutiora. Theca in pedunculo elongato, ovali-cylindracea, ore magno.

Hab. Andes Quitenses, in Cordillera occidentali in monte Chimborazo, in sylvis *Cinchonæ succirubræ* (4000 ped.), *Spruce,* n. 82.

Folia sicca singula torta cirrhosaque. Habitus *M. crispatuli,* sed cellulis foliorum pellucidioribus et theca lævi.

A *M. apiculato* foliis angustioribus et theca longiore recedit.

50. M. CRISPATULUM (*Mitt.*). Rami cæspitosi. Folia patentia, siccitate crispata, nervo flavo percurrente carinata, cellulis basi paucis elongatis, superioribus omnibus rotundatis obscurioribus; perichætialia breviora, erecta, ovato-lanceolata. Theca in pedunculo elongato aurantiaco, ovali-elliptica, operculo subulato.

Hab. Andes Quitenses, Antombos ad pedem montis Tunguragua (5000 ped.), *Spruce,* n. 86.

Statura, colore, habituque *M. apiculati,* sed folia angustiora sicca arcte crispata et thecæ per longitudinem totam plicatæ.

51. M. LONGIFOLIUM (*Hook. Musc. Exot.* t. 44, Orthotrichum). Rami elongati, simplices ramosique. Folia patentia, divergentia, nervo carinata, margine inferne uno latere recurva, cellulis superioribus parvis rotundatis obscuris, inferioribus oblongis elongatis papilliferis pellucidioribus, ad nervi basin uno latere paucis majoribus diaphanis; perichætialia externa longiora, caulinis conformia, interna brevia late lanceolata erecta acuminata. Pedunculus elongatus, scaber. Theca ovalis, operculo subulato, peristomii dentibus brevibus inferne cohærentibus.

M. scabrisetum, *Wils. in Trans. Linn. Soc.* xx. 165.

Hab. Venezuela, Caracas in devexis montis Avilæ (950 hexap.), *Humboldt et Bonpland.* Andes Bogotenses, Tequendama (2500 metr.), *Lindig*; ibidem ad arbores vetustiores (7500 ped.), *Weir,* n. 310. Andes Quitenses ad pedem montis Tunguragua secus Baños (6500 ped.), *Spruce,* n. 109. Ins. Gallapagos, Charles Island, *Darwin.*

Rami unciales. Folia 1½ lineam longa, viridia, fulvescentia, sicca laxe crispata. Pedunculus 6–9-linearis.

52. M. REGNELII (*Hampe*; *C. Müll. Syn.* i. 739). Dioicum, laxe intertextum, ramis elongatis inæqualiter fastigiatim ramulosis, gracilioribus

magis teretibus flexuosis luteo-viridibus, inferne fuscescentibus. Folia crispula, madore reflexa, flexuosa, haud longe acuminata subulata, alis convexis undulatis, canaliculata, cellulis basi rectangularibus brevibus, papillis tuberculosis scabris, superne minutissimis punctiformibus, nervo excurrente; perichætialia erecta, lato-lanceolata acuminata, plicata, pellucidiora, lutescentia, subintegra. Theca in pedunculo elongato flexuoso purpureo, urceolato-oblonga, brevicolla, ore angusto, intense fusca nitida, lævissime plicata, operculo conico aciculari recto, calyptra lævi straminea; peristomium duplex, externum e dentibus brevissimis veluti truncatis obtusatis valde trabeculatis latis pallidis in membranam veluti connatis, internum e membrana tenui truncata formatum.—*C. Müll. l. c.*

Hab. Brasilia, Minas Geraës, ad Caldas, *Regnell.*

53. M. OBLONGUM (*Tayl. in Hook. Lond. Journ.* v. 46, Schlotheimia). Rami elongati, plus minus ramosi. Folia a basi erectiore recurva, patentidivergentia, carinata, inferne uno latere recurva, basi auriculis plus minus evidentibus subcrenulatis, cellulis superioribus oblongo-rotundis obscuris, inferioribus oblongis grosse papilliferis; perichætialia externa longiora, interna caulinis æqualia latiora. Theca in pedunculo elongato lævi, ovalis, operculo subulato, peristomii dentibus brevibus truncatis, interni membrana albida truncata.

Hab. Andes Quitenses, Quito, *Jameson*; in monte Pichincha, *Spruce.*

Rami 1–3 uncias alti. Folia viridia, aurea, fulvo-fuscescentia, sicca laxe crispata, subnitida. Pedunculus ½-uncialis.

54. M. REFLEXIFOLIUM (*Mitt.*). Folia dense inserta, anguste oblongo-lanceolata, apice latiuscula, nervo brevissime excurrente mucronata carinataque, dimidio inferiore erecta, superiore recurva, divergentia vel decurva, margine apicem versus serrulata, cellulis superioribus parvis rotundis, inferioribus angustis elongatis pellucidis, interioribus nodosopapillatis, tertiam partem folii longitudinis occupantibus; perichætialia breviora, erecta, oblongo-ovata, integerrima. Theca in pedunculo elongato, ovalis.

Hab. Guatemala, Coban, *Godman et Salvin.*

Caules unciam longi, in cæspitem congesti. Folia lineam longa, juniora flavo-viridia, seniora fusco-nigra, sicca inflexa contorta, humida divaricata decurvaque, in spiras plures disposita.

M. punctato statura adspectuque simile, sed folia latiora, inferne erectiora, superne magis divaricata.

55. M. PUNCTATUM (*Raddi,* Orthotrichum; *Brid.* i. 739). Rami elongati, simplices ramosive. Folia divergentia, carinata, margine basi uno latere reflexa, superne crenulata, apice serrulata, cellulis superioribus minutis obscuris, inferioribus angustis elongatis papilliferis pellucidioribus; perichætialia erecta, acuminata. Theca in pedunculo elongato, ovalis, operculo subulato, peristomii dentibus lanceolatis luteis.

Schlotheimia brachyrrhyncha, *Schwægr.* t. 168.

Hab. Nova Granata, *Domina Blagborne in Herb. Hooker*; Columbia, *Moritz*, n. 60. Andes Quitenses, in Cordilleræ occidentalis monte Chimborazo, in sylvis Cinchonarum (4000 ped.), *Spruce*, n. 83, ad fl. Pastasa superius (4000 ped.). Andes Peruvianæ, in monte Campana (4000 ped.), *Spruce*, n. 108; Casapi, *Mathews*. Brasilia, *Raddi*.

Rami 1–1½-unciales. Folia 1½ lineam longa, viridia, fuscescentia, sicca crispato-contorta. Pedunculus 4-linearis.

56. M. ATTENUATUM (*Hampe in Ann. Sc. Nat.* ser. 5. iv. 329). Dioicum, laxe cæspitosum, elongatum, attenuatum, rufo-fusco-viride; caulis gracilis laxe diviso-ramosus, basi fusco-tomentosus, superne rufescenti-viridis, subæqualis. Folia imbricata, humida patula, suprema stellato-reflexa, sicca uncinato-crispata, laxe accumbentia, e basi sulcato-carinata flexuosa, canaliculata, margine superne interdum undulata, basi integerrima, nervo rufescente percursa ante apicem evanido, cellulis basilaribus luteis seriatis linearibus lævibus, intermediis ellipticis brevioribus papillosis diaphanis, in superiore opaciore parte folii dense aggregatis papilloso-granulosis, in acumine diaphano dentato-serrata cellulis ellipticis; perichætialia intima basin setæ involventia, erecta, breviora, apice vix muriculata, nervo paulo breviore. Seta pseudo-lateralis, ramos paulo superans, gracilis, superne torquescenti-tortilis, glabra, erecta. Theca ovato-elliptica, pyriformis, operculo conico-subulato erecto brevi; peristomium duplex, breviter tubulosum, dentibus exterioribus lato-lanceolatis flavicantibus reflexis, interioris membrana albida, laciniis latis conniventibus, erectis; calyptra rufescenti-aurea, longa, profunde laciniata.—*Hampe, l. c.*

Hab. Andes Bogotenses, Pacho (2200 metr.) ad arbores, *Lindig*.

57. M. MACROTHELE (*C. Müll. Syn.* i. 742). Rami humiles. Folia patenti-incurva, carinata, cellulis superioribus rotundis parvis obscuris, inferioribus oblongis pellucidioribus papilliferis; perichætialia interna breviora, lanceolata, acuta. Theca in pedunculo breviusculo, pyriformis, plicata, ore magno, operculo subulato, peristomio duplici, externi dentibus brevioribus adhærentibus truncatis, interni membrana albida truncata.

Hab. Venezuela, Caracas (4000 ped.), *Funck et Schlim.* n. 364. Andes Peruvianæ, in monte Campana et Cerro Pelado (2500–4000 ped.), *Spruce*, n. 100.

Rami 3–6 lineas alti, in cæspites densos congesti. Folia ¾ lineam longa, sicca crispata contorta, fulva fuscescentia. Pedunculus 2-linearis.

58. M. LONGIROSTRE (*Hook. Musc. Exot.* t. 25, Orthotrichum). Rami simplices ramosive. Folia erecto-patentia, nervo crassiusculo carinata, margine integerrima, cellulis superioribus minutis obscuris, parietibus latiusculis pellucidioribus, inferioribus oblongis; perichætialia latiora, erecta. Theca in pedunculo brevi crassiusculo, oblongo-cylindracea, subobliqua, ore inæquali, operculo subulato, peristomii dentibus lanceolatis.

Hab. Chili, Valparaiso, *Puccio ex Herb. De Notaris.* Ins. Chiloe, *Lobb*; etiam in ins. Auckland et Novæ Zealandiæ.

Rami ¼–1½-unciales. Folia 1¼ lineam longa, fulva, sicca appressa contorta, subnitida. Pedunculus 2-linearis.

59. M. AUREUM (*C. Müll.*; *Hampe in Ann. Sc. Nat.* ser. 5. iv. 328). Rami elongati, ramosi. Folia densissima erecto-patentia, carinata, cellulis superioribus parvis rotundis subpellucidis, inferioribus elongatis pellucidis papilliferis; perichætialia erecta, duplo latiora, acuminata. Pedunculus breviusculus. Theca pyriformis, peristomii dentibus brevibus truncatis, interni membrana brevi pallida fissa.

Hab. Nova Granata, prov. Ocana (8000–10,000 ped.), in Cerro Pelado, *Schlim.* n. 487.

Rami 1–1½-unciales. Folia 2-linearia, dense inserta, mollia, aureo-fulva, sicca laxe crispata. Pedunculus 4-linearis.

60. M. GALIPENSE (*C. Müll. Syn.* ii. 643). Rami breves. Folia densa, patentia, carinata, margine inferne uno latere recurva, cellulis superioribus rotundis grossiusculis obscuris, inferioribus elongatis, basilaribus pellucidioribus papilliferis, ad nervi basin uno latere paucis laxioribus pellucidis; perichætialia interna breviora, erecta, acuminata. Theca in pedunculo breviusculo, pyriformis, peristomii dentibus densissime approximatis opacis rugulosis.

Hab. Venezuela, Galipan (6000 ped.), *Wagner ex Herb. C. Müller.*

Rami 3–4 lineas alti. Folia lineam longa, fulva fuscaque, sicca contorta. Pedunculus 3-linearis.

61. M. CRENULATUM (*Hampe in Ann. Sc. Nat.* ser. 5. iv. 330). Rami elongati, simplices ramosive. Folia patentia, subincurva, carinata, cellulis superioribus rotundis obscuris, inferioribus oblongis papilliferis pellucidioribus; perichætialia interna erecta, longiora, acuminata. Theca in pedunculo breviusculo, pyriformis, peristomio brevi dentibus membranaque interioris truncatis.

Hab. Nova Granata, prov. Rio Hache, Sierra Nevada (11,000 ped.), *Schlim.* n. 865; Tequendama et Pacho (2200–2500 metr.), *Lindig.*

Rami 1–1½-unciales. Folia lineam longa, mollia, viridia fulvescentia, sicca tortuosa. Pedunculus 4-linearis.

62. M. TRACHYPODIUM (*Mitt.*). Rami ramosi, cæspitosi. Folia dense inserta, patentia divergentiaque, sicca laxe appressa, nervo flavo excurrente, marginibus subcrenulatis, cellulis basi uno latere ad nervum pluribus oblongis hyalinis majoribus, inde angustis papillis grossis inspersis, superne omnibus ovoideis pellucidis; perichætialia longiora, subulato-pilifera. Theca in pedunculo rubro scabro, late ovalis, operculo subulato, peristomii dentibus brevibus adglutinatis; calyptra profunde fissa, apice scabra.

Hab. Andes Quitenses, Cuenca (8000 ped.), *Jameson*; in monte Tunguragua (8000 ped.), *Spruce*, n. 90.

Rami 2-unciales, crassi. Folia 2-linearia, tenera, subnitida, seniora fusca, siccitate parum curvata. Pedunculus ½-uncialis.

63. M. LÆVISETUM (*Mitt.*). Rami ramosi, cæspitosi. Folia densa, patentia, sicca cirrhoso-curvata, nervo rufescente carinata, cellulis basi elongatis, superioribus sensim brevioribus, a folii medio ad apicem rotundatis distinctis; perichætialia erectiora, longiora. Theca in pedunculo elongato lævi, ovalis, operculo subulato, peristomii dentibus in tubulum coalitis.

Hab. Andes Quitenses, in montibus Tunguragua et Mulinúl (8000–10,000 ped.), *Spruce*, n. 95; Brasilia, *Klotsch in Herb. Hooker.*

Species habitu magnitudineque *M. longifolio* simillima, sed foliis acutioribus et pedunculo lævi distincta.

64. M. LIBERUM (*Mitt.*). Rami laxe cæspitosi, elongati, ramosi. Folia e basi erectiore sensim hamato-recurva, sicca laxe torta, complicato-carinata, nervo rufescente, marginibus basi infima minute crenulatis, a medio ad apicem usque crenulatis, cellulis basi paucis elongatis papilliferis, superioribus minutis rotundatis obscuris; perichætialia interna erecta, lanceolato-subulata, caulinis breviora. Theca in pedunculo elongato rubro, ovalis, collo sensim attenuato, operculo subulato, peristomio brevi dentibus adhærentibus; calyptra thecam fere totam obtegens.

Hab. Andes Novo-Granatenses, in arboribus ad viam inter Pacho et Veragua (6500 ped.), *Weir*, n. 270.

Caulis repens, rami inferne tomentosi, inter se ubique liberi, cæspitem laxum formantes. Folia in ramorum apicibus luteo-viridia, inferiora fusca. Pedunculus 7-linearis.

Statura *M. longifolio* similis.

65. M. GUATEMALENSE (*C. Müll. Syn.* ii. 644). Rami humiles, densifolii. Folia patenti-divergentia, nervo carinata, margine superne flexuosa, inferne uno latere recurva, cellulis superioribus minutis rotundis obscuris, parietibus pellucidioribus, inferioribus basin versus elongatis papilliferis, uno latere ad nervi basin paucis latioribus pellucidis; perichætialia erecta, acuminata. Theca in pedunculo brevi, ovalis, operculo subulato; peristomii externi dentes "in membranam altiusculam truncatam veluti conflati, breviusculi carnosi opaci, interni membrana æquilonga, truncata, in dentes haud fissa, tenera, albida, rugulosa."

Hab. Guatemala, *Friedrichsthal?*, *Kegel in Herb. C. Müller.*

Rami ¾ unciam alti. Folia 1¼-linearia, viridia, fuscescentia, sicca appresse contorta. Pedunculus 2-linearis.

M. sulcato Indiæ orientalis simile, sed folia haud apiculata.

66. M. TRIANÆ (*C. Müll.*; *Hampe in Ann. Sc. Nat.* ser. 5. iv. 328). Rami cæspitosi, fasciculatim ramosi. Folia a basi erectiore patentia, apice

recurva, nervo carinata, cellulis basilaribus paucis elongatis sensim abbreviatis grosse papilliferis, exinde ad folii apicem rotundis obscuriusculis; perichætialia erecta, caulinis æquilonga, late elliptico-lanceolata, sensim anguste acuminata, crenulata, cellulis superioribus oblongis pellucidis, inferne elongatis. Pedunculus brevis. Theca ovalis, operculo subulato, peristomium "duplex in tubum brevem coalitum, dentibus externis brevibus dense aggregatis obtusis intense croceis erectis, internis membrana tenuissima hyalina cohærente apice divisa, laciniis brevibus latioribus truncatis."

Hab. Andes Bogotenses, Guadelupe (2900 metr.), *Lindig.*

Rami unciam alti. Folia 2-linearia, luteo-viridia, fulvescentia, sicca tortuosa. Pedunculus ½-uncialis.

67. M. SERRULATUM (*Mitt.*). Rami cæspitosi, ramosi. Folia patentia, flexuosa, incurva, sicca crispata, nervo flavo carinata, marginibus e medio ad apicem serrulatis flexuosis, cellulis basi oblongis uno latere ad nervum paucis majoribus pellucidioribus, superioribus rotundatis papillosis; perichætialia breviora, erecta, apice acuminata. Theca in pedunculo elongato aurantiaco, ovalis, operculo subulato, peristomio in conum adglutinato.

Hab. Andes Quitenses, *Jameson*; in monte Tunguragua (7000 ped.), *Spruce,* n. 97.

Rami 1½–2-unciales, foliis crispatis graciles. Pedunculus ½-uncialis.

68. M. SUBSCABRUM (*Mitt.*). Rami laxe cæspitosi. Folia a basi erectiore patentia divaricataque, recurva, subfalcata, sicca laxe inter se tortuosa subcrispata, nervo flavo carinata, marginibus inferne uno latere recurvis, cellulis basi elongatis angustis, ad nervum uno latere paucis majoribus hyalinis, superioribus oblongis inde in rotundatas distinctas transeuntibus; perichætialia externa longiora, interna breviora superne angustiora. Theca in pedunculo rubro minute scabro, ovalis, sicca sub ore contracta, operculo subulato, peristomii dentibus brevibus.

Hab. Andes Quitenses, in monte Tunguragua (8000 ped.), *Spruce,* n. 84.

Rami 1½-unciales, simplices, curvati. Folia dense inserta, juniora viridia, seniora fusca.

69. M. STENOPHYLLUM (*Mitt.*). Rami procumbentes, ramosi, cæspitosi. Folia densa, a basi erectiore divaricata, sicca laxe crispata, nervo rufescente carinata, cellulis basi elongatis angustis, superioribus oblongis pellucidis; perichætialia externa longiora, interna breviora latiora. Theca in pedunculo elongato gracili pallide rubro, breviter ovalis, operculo subulato.

Hab. Ins. Jamaica, *Wilson,* n. 607, *in Herb. Hooker*; etiam ex India occidentali, an Jamaica?, *Herb. R. Brown.*

M. cirrhoso quoad staturam et in statu sicco crispatione foliorum simillimum; foliis autem multo angustioribus magis pellucidis, pedunculo longiore, 9-lineari, et theca ætate ovali collo sensim angustato differt.

70. M. OSCULATIANUM (*De Not. in Herb. Mitten*). Rami elongati, fasciculatim ramosi. Folia patentia, in seriebus quinis spiraliter disposita, carinata, margine fere ubique serrulata, basi uno latere reflexa, cellulis superioribus rotundis, parietibus crassis obscuris, inferioribus oblongis papilliferis; perichætialia longiora, erecta, latiora, sensim acuminata. Theca in pedunculo elongato, ovalis elliptica, operculo subulato, peristomii externi dentibus brevibus adhærentibus, interni membrana brevi pallida apice laciniata; calyptra profunde fissa.

Hab. Guiana, *Appun.* Andes Quitenses fl. Napo, *Osculati,* in montibus Tunguragua et Guayrapata (6000–8000 ped.), *Spruce,* n. 93, et in Cordilleræ occidentalis monte Chimborazo (4000 ped.), *Spruce,* forma foliis angustioribus.

Rami 1–2-unciales. Folia 1¼ lineam longa, viridia, fuscescentia, sicca appresse contorta.

71. M. PŒPPIGII (*Duby, Choix Crypt. Exot. t.* 2. f. 2). Dioicum, foliis vetustis et radicillis onustum, tomentoso-ferrugineum, caule reptante, ramis gracilibus remotis erectis flexuosis, in parte inferiore paulo ramulosis, in superiore subsimplicibus luteo-fuscis. Folia densissime imbricata vix crispula, non contorta, erecta, amplexicaulia et subdecurrentia, madore patula incurvo-reflexa, in parte ramuli inferiore in axillis radicellorum fasciculos densos gerentia profunde canaliculata, nervo tenui subpellucido usque ad apicem attingente, cellulis quadratis papillis minutissimis rotundis onustis, excepta parte inferiore quæ nuda et in qua cellulæ elongatæ parallelogrammicæ hyalinæ; perichætialia duplo fere longiora, similia, sed angustius adhuc acuminata. Theca in pedunculo longo flexuoso, elongato-cylindrica, ad apicem sensim angustata, fusca, peristomii dentibus extremitate siccitate reflexis, fuscis, trabeculatis, linea exaratis, basi latis et sese contingentibus, interni ciliis subæqualibus hyalinis subspinulosis.—*Duby, l. c.*

Hab. Chili, in Andibus Antucensibus, *Pœppig.*

Species ex icone bene distincta *M. Osculatiano* et affinibus conveniens, a *M. gracili* Hook. plicatione thecarum nec non foliorum structura longe diversum.

72. M. PERICHÆTIALE (*Hook. et Grev. in Brewst. Edinb. Journ.* i. 127, t. 6, Orthotrichum). Rami ramosi. Folia a basi erectiore divergentia, nervo in mucronem brevem excurrente carinata, margine integerrima, inferne uno latere recurva, cellulis superioribus oblongis obscuris, inferioribus elongatis pellucidioribus lævibus; perichætialia externa acuminata, nervo longius excurrente, interna longiora erecta, sensim attenuata. Theca in pedunculo elongato, ovalis, operculo subulato; calyptra ramentis pluribus pilosa.

M. truncatum, *C. Müll. Syn.* i. 724.

Hab. Ins. Sti. Vincentis, *Guilding, Menzies, Parker*; Trinidad, *Crüger*.

Rami ½-unciales uncialesve. Folia 1½ lineam longa, fulva fuscaque, sicca appressa contorta. Pedunculus ½-uncialis.

73. M. PROLIFERUM (*Mitt.*). Rami fasciculatim ramosi, ramulos nonnullos ex apicibus prodentes. Folia basi breviter erecta, sensim recurva, divergentia, tertia parte inferiore oblongo-ovalia, exinde ad apicem sensim angustata, vel apice latiuscule acuta, nervo carinata, margine apicem versus plus minus serrulata, cellulis superioribus grossiusculis subpellucidis, basilaribus paucis ovalibus papilliferis, ad margines paucissimis elongatis lævibus; perichætialia longiora, superne angustiora, flexuosa. Theca in pedunculo elongato, ovalis, operculo subulato, peristomio brevissimo pallido; calyptra ramentis appressis obtecta.

Hab. Andes Bogotenses, *Weir*; Brasilia tropica, *Burchell*, n. 3959.

Rami unciales. Folia lineam longa, comalia longiora, luteo-viridia, fulvescentia, sicca tortuosa. Pedunculus ¾-uncialis. Theca valde plicata, cinnamomea. Calyptra fulva.

74. M. FRONDOSUM (*Mitt.*). Rami procumbentes, flexuosi, ramosi. Folia patentia, sicca curvata, basi erectiora, nervo flavo carinata, marginibus hic illic crenulatis vel omnino integerrimis, cellulis basi angustis, superioribus oblongis pellucidis; perichætialia longiora, conformia. Theca in pedunculo brevi aurantiaco, ovalis, collo sensim attenuato, operculo subulato, rostro brevi curvato, peristomio in tubulo brevi pallido; calyptra ramentis stramineis quam ipsa longioribus pilosa.

Hab. Andes Quitenses, Paila-urcu in Cordillera occidentali ad Pangor (9000 ped.), *Spruce*, n. 102.

Rami 3-unciales, laxe cæspitosi. Folia 3-linearia angusta, juniora straminea, seniora fusca. Pedunculus 4–5-linearis.

75. M. DIVARICATUM (*Mitt.*). Rami ramosi, cæspitosi. Folia divaricata recurvaque, sicca singula torta inter se vix tortuosa, nervo flavo carinata, cellulis basi exterioribus elongatis angustis, interioribus oblongis, superioribus rotundatis obscuriusculis, apice ultra nervum oblongis; perichætialia externa caulinis duplo longiora, subulata, flexuosa, interna erecta ovata acuminata. Theca in pedunculo rubro minute scabro, ovalis, sicca sub ore constricta, operculo subulato, peristomii dentibus brevibus 8 siccitate recurvis; calyptra thecam totam obtegens profunde fissa, ramentis paucis apice scabra.

Hab. Andes Quitenses, in Cordillera occidentali loco Lucmas (5000 ped.), *Spruce*, n. 87.

Rami 1½-unciales. Folia sublaxe inserta, siccitate singula per se torta, patenti-divergentia. Pedunculus 5-linearis. Theca parva.

76. M. PENICILLATUM (*Mitt.*). Rami ramosi, cæspitosi. Folia patenti-divergentia, curvata, sicca tortuosa, in ramorum juniorum apicibus

singula spiraliter torta, divergentia, nervo luteo carinata, cellulis basi ad margines elongatis angustis, interioribus oblongis papillosis, superioribus rotundatis obscuriusculis; perichætialia erecta, lanceolato-subulata. Theca in pedunculo rubro, ovalis, ore parvo, operculo subulato, peristomio brevi; calyptra ramentis paucis brevibus subnuda.

Hab. Andes Quitenses, in Cordillera occidentali ad Lucmas (5000 ped.), *Spruce*, n. 89.

Rami 1½-unciales. Folia inferne fusca, superne luteo-fusca, sublaxe inserta, singula per se torta et inter se tortuosa, in ramorum apicibus divergentia, scopæformia.

Species sedis incertæ.

77. **M. QUINQUEFARIUM** (*Hornsch. in Mart. Fl. Bras. Musc.* 26). Caulis declinatus, ramosus, apice stoloniformis, ramis secundis erectis subsimplicibus dense foliosis rufis. Folia quinquefariam patentia, sicca appressa crispula, cordato-ovata obtusiuscula, concava, margine parum revoluta, viridi-ferruginea, nervo crasso solido ferrugineo evanido, cellulis rotundis seriatis pusillis; perichætialia interiora basi submembranacea, oblongo-lanceolata, longe acuminata, nervo angustiore concolori supra medium evanescente, cellulis laxis basi subquadratis, intima lanceolata mucronata. Theca in pedunculo semiunciali apice in sporangium transiente erecta, clavata v. sulcata, amœne badia, ore angustata; peristomii dentes exteriores lanceolati, bigeminati, igitur octo lato-lanceolati ferruginei, interni octo filiformes articulati lutescentes, ex unica serie cellularum formati.—*C. Müll. Syn.* i. 748.

Hab. Brasilia, in montibus ad Lagos, Sincora et ad Rio de Contas, in mediterraneis prov. Bahiensis, *Martius.*

Sect. 4. *Micromitrium.*

78. **M. FRAGILE** (*Mitt.*). Rami graciles, dichotomi, fastigiati, cæspitosi. Folia laxe inserta, patentia, sicca appressa torta, nervo flavescente carinata, integerrima, cellulis basi ad margines paucis elongatis limbum angustum formantibus, cæteris omnibus parvis rotundatis; perichætialia longiora, usque ad medium sensim latiora, inde ad apicem subulata, apicibus fragilibus.

Hab. Fl. Amazonum ostia, loco Caripi, *Spruce*, n. 110 *b*; ibidem loco Tanaú, *Spruce*, n. 110 *c*.

Cæspites laxi, molles. Rami ½–1½-unciales. Folia juniora viridia, seniora ferruginea.

M. goniorhyncho Dozy et Molk. habitu statura coloreque valde affine, sed foliis rameis diversiformibus distincta.

79. **M. CHIMBORAZENSE** (*Spruce*). Rami procumbentes, inferne radiculosi cæspitosi. Folia laxe inserta, patentia, sicca crispata, nervo tenui concolori percurrente, integerrima, cellulis basi ad nervum paucis majoribus pellucidis, ad margines angustis, interioribus superioribusque parvis

rotundatis distinctis; perichætialia ovato-lanceolata. Theca in pedunculo crassiusculo rubro, cylindracea, rubra, lævis, subnitens, collo sensim angustato plicato, gymnostoma, operculo e basi convexa subulato-tetragono; calyptra paulo infra basin operculi descendens, nuda.

Hab. Andes Quitenses, ad radices occidentalis montis Chimborazo (3500 ped.), *Spruce*, n. 110.

Rami graciles, ½–1½-unciales. Pedunculus ½-uncialis.

M. goniorhyncho simillimum, forma foliorum autem diversum.

40. SCHLOTHEIMIA, Brid. i. 320.

Musci caulibus primariis repentibus, ramos erectos simplices vel ramosos in cæspitem aggregatos prodentes. Folia brevia, ut plurimum dense inserta, cellulis parvis superioribus rotundatis areolata. *Habitatio* ad corticem arborum, etiam ad rupes.

Sect. 1. STEGOTHECA. *Theca breviter pedunculata, in perichætio majore immersa. Calyptra breviuscula.*

Folia lanceolato-ligulata, perichætialiorum nervo in aristam rigidam sublævem excurrente .... 1. *S. tecta.*

Folia lanceolato-ligulata, perichætialia subulata, margine undulata denticulata .... 2. *S. immersa.*

Folia lanceolata apice acuminata, perichætialia subulato-lanceolata, margine valde undulata serrulata.................... 3. *S. appressifolia.*

Folia lanceolata apice acuminata acutave, perichætialia lanceolato-subulata, margine flexuosa serrulata.................. 4. *S. fasciculata.*

Folia lanceolato-ligulata apice acuminata, perichætialia subulato-angustata, margine superne flexuoso-undulata, usque ad summum apicem creberrime denticulata .... 5. *S. emergens.*

Folia oblongo-ligulata apice subacuminata, perichætialia externa oblongo-ligulata, superne rugosa, subito cuspidata serrulata. 6. *S. cuspidifera.*

Folia oblongo-lanceolata apice acuta acuminatave, longitudinaliter birugosa, perichætialia superne plicis parvis pluribus rugosa. 7. *S. furcata.*

Sect. 2. EUSCHLOTHEIMIA. *Theca pedunculo elongato exserta. Calyptra elongata, cylindracea.*

Calyptra nuda.

Folia perichætialia caulinis longiora, sensim angustata subulatave acuminata.

Folia ovalia, obtusa, apice rugulosa, perichætialia plicata; calyptra apice scabra........................... 8. *S. Sprengelii.*

Folia oblonga subulato-angustata, apice acuta. 9. *S. angustata.*

Folia ovali-ligulata, apice obtusa, rugulosa; calyptra apice sublævis. 10. *S. torquata.*
Folia ovali-ligulata, apiculo parvo recurvo .. 11. *S. Ottonis.*
Folia oblongo-ligulata, apiculo parvo recurvo, angulosa. 12. *S. nitida.*
Folia perichætialia intima anguste lanceolata acuminata, inferne maxime plicata .... 13. *S. Œrstediana.*
Folia oblongo-ovata .... 14. *S. Martiana.*
Folia latissime ovato-oblonga, superne angustiora. 15. *S. julacea.*
Folia perichætialia caulinis longiora obtusa.
Folia oblongo-ligulata obtusa, acumine parvo, superne rugulosa, perichætialia lævia .... 16. *S. Jamesoni.*
Folia oblongo-ligulata, apiculo parvo, superne rugulosa, perichætialia apice rugulosa........................ 17. *S. patula.*
Folia ligulata, elongata, haud rugosa, apice obtusa. 18. *S. elata.*
Folia ovali-ligulata, sublanceolata, apice rugulosa. 19. *S. sinuata.*
Folia longiuscule acuminato-apiculata, valde rugulosa. 20. *S. recurvifolia.*
Folia oblongo-ligulata, obtusa, rugulosa, pellucide areolata. 21. *S. unguiculata.*
Folia oblongo-ligulata, rugulosa, obscura.... 22. *S. rugifolia.*
Folia anguste longiuscule oblongo-ligulata, apiculata vel acuminata. 23. *S. longifolia.*
Folia perichætialia caulina haud excedentia.
Folia breviter oblongo-ligulata .... 24. *S. fusco-viridis.*
Folia lineari-lanceolata, obtusa .... 25. *S. Chamissonis.*
Folia breviter oblongo-ligulata, basi uno rarius utroque latere ventricosa concava .... 26. *S. Kegeliana.*
Folia oblongo-lanceolata, apice latiuscule acutata. 27. *S. laxa.*
Folia spathulata .... 28. *S. sphæropoma.*
Folia remota, falcato-recurva .... 29. *S. gracilis.*
Calyptra pilosa .... 30. *S. trichomitria.*

Sect. 1. *Stegotheca.*

1. S. TECTA (*Hook et Wils. in Hook. Lond. Journ.* iii. 157). Rami elati, innovantes radiculosi. Folia densa, erecto-patentia, sicca appressa, spiraliter torta, apice complicata acuta, nervo carinata, marginibus integerrimis serrulatisve basi reflexis apice subflexuosis, cellulis inferioribus elongatis, superioribus oblique ovalibus, apicalibus rotundis; perichætialia a basi latiore ovalia, apice inæquali-serrulata, nervo crassiusculo rufo in aristam rigidam sublævem excurrente. Theca oblonga, immersa, oper-

culo conico acuminato, peristomii dentibus opacis papillosis, interni ciliis angustioribus obscuris papilloso-striatulis; calyptra nitida, subscabra, basi multifida, paulo infra thecæ os descendens.

Hab. Brasilia, Sierra dos Orgaos, *Gardner*, n. 71.

Caules 1–2 uncias alti, innovationibus sub perichætio enatis continui, erecti, crassitudine cum foliis lineam vix æquantes. Folia fulvo-castanea, apicibus complicatis subtortis.

2. S. IMMERSA (*Mitt.*). Rami dichotomi, elongati. Folia a basi erectiore patentia, sicca appressa torta, apice acuta complicata semitorta, nervo percurrente carinata, marginibus basi reflexis, apice serrulatis, cellulis inferioribus elongatis, superioribus rotundo-ovalibus obliquis; perichætialia oblongo-subulata, marginibus superne undulatis denticulatis. Theca immersa, ovalis, operculo conico acuminato; calyptra brevis, apice scabra, infra os thecæ parum descendens.

Hab. Brasilia, in prov. Parana, Fazenda de Lageada (2000 ped.), *Weir*, n. 48.

Rami 2½ uncias alti, iterum iterumque furcati, adscendentes. Folia e viridi fulvo-nitida fuscescentia.

3. S. APPRESSIFOLIA (*Mitt.*). Rami simplices ramosive. Folia a basi erectiore patentia, sicca laxe appressa, basin versus paulo latiora, apice semitorta, serrulata, nervo sub summo apice desinente carinata, marginibus inferne recurvis, cellulis basilaribus elongatis, superioribus oblongis subrotundisque sæpius subobliquis subpellucidis; perichætialia a basi latiore convoluta sensim subulato-lanceolata, marginibus valde undulatis serrulatis, nervo percursa. Theca immersa, ovalis, operculo conico; calyptra brevis, apice scabrosa.

Hab. Brasilia, in prov. Parana, in sylvulis camporum prope Fazenda de Lageada (2000 ped.), *Weir*, n. 72.

Rami unciam alti, vix distincte fastigiatim ramosi. Folia juniora viridia, sensim senectute fuscescentia.

S. tectæ similis, foliis autem siccis laxe appressis, perichætialibus haud in aristam productis distincta.

4. S. FASCICULATA (*Mitt.*). Rami cæspitosi, furcati, fasciculatim ramosi. Folia a basi erectiore patentia, semitorta, serrulata, nervo infra apicem evanido carinata, margine uno latere reflexo, cellulis inferioribus elongatis, parietibus interruptis, superioribus rotundatis obscurioribus; perichætialia a basi latiore convolutacea, lanceolato-subulata, marginibus flexuosis serrulatis, nervo percursa. Theca immersa, ovalis, operculo conico, peristomii dentibus . . . ; calyptra brevis, apice scabrosula.

Hab. Brasilia, in prov. Parana, *Weir*.

Rami 2–3 uncias alti. Folia juniora fusco-viridia, seniora rufescentia.

Habitu omnino *S. tectæ*, sed folia patentia apice latiora distinctius serrulata, perichætialia nervo minus distincto in aristam excurrente.

5. S. **EMERGENS** (*Mitt.*). Rami dichotomi. Folia a basi erectiore parum latiore patenti-recurva, subcomplicata, semitorta, nervo percurrente carinata, marginibus inferne reflexis apice serrulatis, cellulis basilaribus elongatis, superioribus rotundo-ovalibus obliquis; perichætialia a basi late ovali sensim subulato-angustata, nervo fusco percursa. Theca subemergens, ovalis, operculo conico-acuminato, peristomii dentibus 32 opacis, interni æquilongi ciliis punctulatis flavis subpellucidis; calyptra apice scabra, basi multifida, infra thecæ os parum descendens.

Hab. Brasilia, in prov. Parana prope Fazenda de Tucanduva (2000 ped.), *Weir*, n. 93.

Rami unciales, latitudine cum foliis 2-lineari. Folia e viridi fulva fuscescentia, sicca laxe appressa tortaque. Flos masculus minutus, nidulans.

A *S. tecta* foliis patulis recurvis perichætialiorum laminis usque ad apices continuatis, et theca subemergente differt.

6. S. **CUSPIDIFERA** (*Mitt.*). Rami dichotomi, fasciculati. Folia a basi erectiore patentia, apice subcomplicata, acuta, nervo infra apicem evanido carinata, margine inferne uno latere reflexa, apice subcrenulata, cellulis inferioribus elongatis, superioribus ovalibus obliquis; perichætialia externa oblongo-ligulata, superne rugulosa, subito cuspidata, serrulata, interna a basi late elliptico-ovali subulata, marginibus superne undulatis serratis.

Hab. In America australi (Brasilia?), *ex Herb. Sowerby.*

Rami 2 uncias alti, fasciculato-furcati. Folia densa, fulva, sicca appressa, spiraliter contorta, nitida.

S. tectæ ex habitu plane contigua, sed foliis latioribus pellucidioribus nitidis et perichætialibus rugulosis diversa.

7. S. **FURCATA** (*Mitt.*). Cæspitosa; rami pluries furcati, fasciculatim ramosi. Folia densa, a basi erectiore sensim recurva, patentia, siccitate appressa, spiraliter contorta, apice semitorta, subserrulata, nervo angusto sub apice evanido carinata, longitudinaliter birugosa, margine uno latere reflexo, cellulis inferne elongatis, superioribus oblongis ovalibusque obliquis pellucidis; perichætialia longiora, superne plicis parvis pluribus rugosa, nervo in cuspidem excurrente.

Hab. America australis, Brasilia?, *ex Herb. Sowerby.*

Rami 2-unciales. Folia juniora rufo-viridia, seniora rufo-fusca.

S. tectæ habitu similis, foliis autem patentibus apicibus latioribus et perichætialibus pluries rugulosis diversa.

Sect. 2. *Euschlotheimia.*

8. S. **SPRENGELII** (*Hornsch. in Mart. Fl. Bras. Musc.* 34). Folia patentia, apiculo parvo recurvo, nervo carinata, basi plicata, margine inferne uno latere reflexa, cellulis inferioribus elongatis limitibus prominulis,

superioribus rotundis pellucidis; perichætialia elongata, lanceolata, acuminata, lævia. Theca in pedunculo brevi, cylindracea; peristomii dentibus elongatis, linea media notatis, interni ciliis brevioribus.

Hab. Brasilia, Sierra de Jaquari, *Gardner*, n. 65 (*S. nitida*), etiam in Brasilia australiore absque loco speciali, *Weir*, *Blanchet*, n. 3799.

9. S. ANGUSTATA (*Mitt.*). Rami graciles, inferne tomentosi, cæspitosi. Folia patentia, nervo superne carinata, marginibus integerrimis, cellulis basilaribus elongatis lævibus, superioribus rotundatis; perichætialia majora, longiora, conformia, pellucidiora. Theca in pedunculo longiusculo, cylindracea, operculo cupulato subulato; peristomii dentibus elongatis opacis, linea media notatis, papillosis, interni ciliis æquilongis luteis punctulatis; calyptra lævis.

Hab. Andes Peruvianæ, in monte Campana, in palmarum truncis (4000 ped.), *Spruce*, n. 113. Andes Quitenses, in ramis ad rivulum Lligua, supra Baños (7000 ped.), *Spruce*, n. 113 *b*.

Species ex habitu staturaque *S. torquatæ* et *S. trichomitriæ* affinis, forma autem foliorum valde diversa.

10. S. TORQUATA (*Hedw. Sp. Musc.* t. 63, Hypnum). Rami superne fasciculatim ramosi, cæspitosi. Folia densissime inserta, a basi erectiore patentia, mucrone parvo subrecurvo, pluries rugulosa, nervo carinata, marginibus integerrimis basi reflexis, cellulis basilaribus elongatis limitibus papilliformi-prominulis, superioribus rotundatis; perichætialia caulinis duplo longiora, erecta, oblongo-subulata, acuta, longitudinaliter plicata. Theca in pedunculo breviusculo, cylindracea, operculo . . . .; peristomii dentibus rubris elongatis opacis papillosis, siccitate crispatis, interni ciliis brevioribus luteis papillosis.

Hab. Ins. Jamaica, *Swartz*; Cuba in altioribus ad arbores, *Wright*, n. 52.

11. S. OTTONIS (*Schwægr.* t. 168). Rami superne fasciculatim ramosi. Folia densa, a basi erectiore patenti-divergentia, superne parce rugulosa, nervo parum carinata, margine basi anguste reflexa, cellulis basilaribus elongatis, superioribus rotundatis; perichætialia elongata, lanceolata, subulata. Theca in pedunculo breviusculo, cylindracea.

Hab. Brasilia, Montevideo, ex *Herb. Schwægrichen.*

S. torquatæ affinis, foliis autem magis divergentibus minusque rugulosis diversa.

12. S. NITIDA (*Schwægr.* t. 167). Rami humiles, dense cæspitosi. Folia erecto-patentia, apice recurva, nervo carinata, superne pluries rugulosa, margine inferne uno latere reflexa, cellulis basilaribus elongatis, parietibus prominulis, superioribus transverse rotundo-ovalibus; perichætialia longiora, ovato-acuminata, plicata. Theca in pedunculo brevi, cylindracea, evacua plicata; peristomii dentibus elongatis, opacis, linea

media notatis, interni ciliis papillosis latiusculis subobscuris; calyptra apice scabra.

S. Pabstiana, *C. Müll. in Bot. Zeit.* 1855, 764.

Hab. Brasilia, Sierra dos Orgaos prope Rio Janeiro, *Beyrich, ex Herb. Schwægrichen*; Minas Geraës, Sierra de Jaquari, *Gardner*, n. 64; Parana, in sylvis prope Castro (2000 ped.), ad arborum truncos, *Weir*, n. 16. Ins. Sanctæ Catharinæ, *Pabst.*

To this species Duby, Choix de Crypt. Exot. 11, refers *S. Ottonis* and *S. Sprengelii*, and considers the genus already encumbered with too many supposed species.

13. S. ŒRSTEDIANA (*C. Müll. Syn.* ii. 648). *S. nitidæ* simillima, sed vix tomentosa, parce fructifera. Folia perichætialia intima anguste lanceolato-acuminata, inferne maxime plicata, superne haud rugulosa et tenerius membranacea. Theca in pedunculo perbrevi flavido erecta, oblongo-cylindrica, leviter sulcata, operculo cupulato recte subulato; peristomii dentes exteriores longiusculi carnosi opaci, medio longitudinaliter exarati, interni in membrana brevissima externos æquantes, fusci, angustissime lanceolati, tenues, ubique striatuli; calyptra magis fuscidula, apice plus minus scabra.—*C. Müll. l. c.*

Hab. America centralis, Costa Rica (5000–8000 ped.), *Œrsted.*

14. S. MARTIANA (*Hornsch. in Mart. Fl. Bras. Musc.* 32). Repens, 1–2-uncialis, subnuda, ramosissima, fusca, torquatifolia, ramis erectis v. assurgentibus, superne fastigiatim divisis, dense foliosis. Folia caulina madore erecto-patentia, basi concava, fusco-brunnea, nervo crasso ferrugineo mucronulata, cellulis basi laxioribus subquadratis, superne subrotundis seriatis minutissimis; perichætialia majora, exteriora oblongo-lanceolata acuta, intima longiora lanceolato-acuminata, vaginata, longitudinaliter plicata. Theca in pedunculo pseudo-laterali brevi erecta, cylindrica, lævis, brunnea, dentibus exterioribus lanceolatis interioribus in membrana illis dimidio breviore linearibus vel lanceolatis; calyptra straminea, nitida, superne pallide ferruginea, 4-appendiculata, lævis.—*C. Müll. Syn.* i. 760.

Hab. Brasilia, prope Rio de Janeiro, Mandiroca, in Sierra dos Orgaos, Villa Rica, ad truncos arborum demortuos sylvarum, *Martius*; in Sierra d'Estrella prope Correyo Secco, *Beyrich.*

15. S. JULACEA (*Hornsch. in Mart. Fl. Bras. Musc.* 30). *S. rugifoliæ* simillima, sed differt foliis brevioribus, perichætialibus perfecte acuminatis, haud ligulatis, haud rugulosis, theca evacuata breviore ovali nitida ruguloso-plicata, calyptra minus scabra.—*C. Müll. Syn.* i. 761.

Hab. Sierra d'Estrella, *Martius.*

16. S. JAMESONI (*Arn. in Trans. Wern. Soc.* v. 201, Orthotrichum). Rami elongati, laxe cæspitosi. Folia patentia, apicibus recurvis, nervo carinata, margine basi uno latere magis reflexa, cellulis basilaribus oblongis lævibus, superioribus rotundis oblatisque; perichætialia elongata, erecta,

ligulata, obtusa, apiculo parvo terminata, carinata, cæterum lævia. Theca in pedunculo elongato, cylindracea, evacua plicata, operculo . . . . , peristomii dentibus elongatis; calyptra apice subscabra.—*Schwægr.* t. 202.

Hab. Brasilia, Rio de Janeiro, *Jameson*; in monte Corcovado, in sylvis ad rupes, *Gardner*, n. 69, ex parte; Parana et San Paulo ad arborum truncos, *Weir*, n. 33.

Species inter affines foliis perichætialibus elongatis obtusis distincta.

Duby refers to this *S. julacea*, Hornsch., with doubt, and regards *S. sinuata*, *S. Martiana*, and *S. laxa*, Hornsch., as certainly belonging to the same species.

17. S. PATULA (*Mitt.*). Rami graciles, cæspitosi. Folia laxa, a basi brevi angusta patulo-recurva, nervo concolori carinata, cellulis basilaribus paucis elongatis lævibus, superioribus minutis rotundatis obscuriusculis; perichætialia erecta, caulinis dimidio longiora, oblongo-ligulata, acuminata, obtuse apiculata, apice rugulosa. Theca in pedunculo brevi, cylindracea, operculo . . . . , peristomii dentibus elongatis, interni ciliis brevioribus, basi in membranam conflatis; calyptra apice lævi.

Hab. Brasilia, *Heward.*

18. S. ELATA (*Mitt.*). Rami elongati, curvati, laxe cæspitosi. Folia a basi brevi erectiore patentia, planiuscula, apice recurva, nervo in mucronem brevem excurrente carinata, integerrima, cellulis basi oblongis lævibus, superioribus minutis rotundatis; perichætialia elongata, ligulata, obtuse apiculata, lævia. Theca in pedunculo elongato, cylindracea, evacua inferne plicata, peristomii dentibus elongatis medio linea notatis, interni ciliis latiusculis luteis papillosis; calyptra lævis.

Hab. Brasilia, in monte Corcovado, in sylvis ad rupes, *Gardner*, n. 69, ex parte (*S. Jamesoni*).

Folia laxa, sicca torta, lævia.

19. S. SINUATA (*Hornsch. in Mart. Fl. Bras. Musc.* 37). Dense cæspitosa. Folia patentia, apicibus recurvis, apiculo parvo terminata, nervo carinata, cellulis basi parvis oblongis, superioribus minutis rotundatis obscuriusculis; perichætialia caulinis parum longiora, ligulata, apice breviter acuminata, lævia. Theca in pedunculo brevi, cylindracea, evacua plicata; calyptra scaberrima.

S. rugifolia, *Schwægr.* t. 139.

Hab. Brasilia, Sierra de Araripé ad arbores, *Gardner*, n. 68 (*S. rugifolia*); ins. Sanctæ Catharinæ, *Chamisso.*

20. S. RECURVIFOLIA (*Hornsch. in Mart. Fl. Bras. Musc.* 35). Longe repens, ramis erectis adscendentibus longiusculis subsimplicibus, haud compacta, ferruginea, subgracilis. Folia caulina erecto-appressa, madore patentia, margine inferne angustissime revoluto, cellulis rotundis minutis, basi irregulariter rectangularibus; perichætialia majora, latiora, apice rugu-

losa, inferne plicata. Theca in pedunculo brevi, cylindrica, lævis, dentibus longiusculis.—*C. Müll. Syn.* i. 762.

Hab. Brasilia, in montibus Araracoara et Cupati, prov. Rio Negro, prope urbem Villa Rica, nec non prope Lages et Sincora et Rio de Contas prov. Bahiensis, *Martius.*

21. S. UNGUICULATA (*Mitt.*). Rami ramulosi, cæspitosi. Folia patenti-recurva, apiculo parvo recurvo, rugulosa, margine uno latere angustissime reflexo, nervo percursa, cellulis basi ellipticis limitibus prominulis, superioribus rotundis minutis pellucidis; perichætialia duplo longiora, ligulata, apicibus acuminatis, interiora lævia, exteriora apicibus subrugulosis, omnia margine uno latere complicata inflexa. Theca in pedunculo longiusculo, cylindracea, operculo . . . . ; calyptra apice scabra.

Hab. Andes Peruvianæ, in monte Campana (4000 ped.), *Spruce*, n. 112.

22. S. RUGIFOLIA (*Hook. Musc. Exot.* t. 128, Orthotrichum). Folia patentia, apicibus subrecurvis, nervo carinata, integerrima, cellulis basi oblongis, superioribus rotundatis obscuris; perichætialia elongata, ligulata, apicibus rugulosis. Theca in pedunculo breviusculo, cylindracea, operculo subulato, peristomii dentibus opacis, linea media exaratis, interni ciliis latiusculis; calyptra apice scabra.

S. Merkelii, *Hornsch. in Mart. Fl. Bras. Musc.* t. 1.

Hab. Brasilia, Bahia, *Swainson* ; in sylvis prope Corritiba (2000 ped.), ad arborum truncos, *Weir*, n. 64.

S. Jamesoni e structura similis, sed humilior, foliis perichætialibus rugulosis et calyptra scabra diversa.

23. S. LONGIFOLIA (*Hornsch. in Mart. Fl. Bras. Musc.* 34). Laxe pulvinata, mollis, subflaccida, gracilis, pallide viridis, inferne fuscescens, valde dichotoma, fastigiate ramosa. Folia laxe imbricata, torquata, madore reflexa, reflexe apiculata v. acuminata acuta, curvata, alis parum undulatis reflexo-convexis, cellulis minute rotundatis pallide viridibus obscuris, basi subhyalinis irregulariter rectangularibus, nervo pallido rufo profunde canaliculato excurrente; perichætialia magis acuminata, basi latiora, majora, magis elliptico-areolata. Theca in pedunculo tenui longiusculo, angustissime cylindrica, lævissima, evacuata interdum ovata, operculo cupulato breviter acuminato; calyptra angusta, amœne aurea, nitida, superne vix scabra, dentibus exterioribus et interioribus longiusculis æqualibus.—*C. Müll. Syn.* i. 759.

Hab. Brasilia, Monte Video, *Sellow.*

"*S. Ottonis* simillima."—*C. Müll. l. c.*

24. S. FUSCO-VIRIDIS (*Hornsch. in Mart. Fl. Bras. Musc.* 32). *S. nitidæ* simillima, sed minus torquata et magis fusca. Folia caulina breviter et reflexiuscule apiculata, basi subventricose concava, superne haud vel vix plicata, alis convexis, cellulis rotundis minutis, dein pachydermis diaphanis, basi tenerioribus subrectangularibus; perichætialia conformia, intima acuminata minora angustiora haud plicata. Theca in pedunculo

brevi erecta, juvenilis cylindrica; calyptra nitida, fusco-lutea, superne vix scabra.—*C. Müll. Syn.* i. 754.

Hab. Brasilia, Villa Rica, in cortice arborum, *Martius.*

25. S. CHAMISSONIS (*Hornsch. in Mart. Fl. Bras. Musc.* 31). Dense pulvinata, robusta, densifolia, dense ramosa, atro-fusca, ramis brevibus simplicibus. Folia caulina appressa, torquata, madore erecto-imbricata, canaliculata, nervo crasso ferrugineo brevissime mucronata, margine parum involuta, subinde longitudinaliter plicata, cellulis basi linearibus, superne rotundis obscuris; perichætialia interiora oblongo-lanceolata, intima minuta ovato-acuminata tenuissime vaginata, basi hyalina, apicem versus pellucida, nervo crasso viridi evanido. Theca in pedunculo bilineari erecta, cylindrica, angusta, lævis, ore purpureo, calyptra fuscescente lævi.—*C. Müll. Syn.* i. 757.

Hab. Brasilia, ins. Sanctæ Catharinæ, *Chamisso.*

26. S. KEGELIANA (*C. Müll. Syn.* i. 754). *S. fusco-viridi* simillima, innovationibus repentibus gracillimis, obscure viridis. Folia caulina cellulis amœne fuscis et diaphanis pachydermis, folia innovationum repentium angustissime oblonga, viridissima, cellulis minute rotundis obscuris; perichætialia latiora, carinato-concava, lævia, vix undulata. Theca in pedunculo brevi, minuta, cylindrico-oblonga, sicca subrugulosa, operculo cupulato brevi, dentibus exterioribus et interioribus æquilongis, breviusculis; calyptra intense fusca, superne scaberrima.—*C. Müll. l. c.*

Hab. Surinam, Paramaribo, locis magis apricis ad truncos arborum, ubi in scissuris bene viget, *Kegel.*

27. S. LAXA (*Hornsch. in Mart. Fl. Bras. Musc.* 33). Prostrata, repens, ramis elatiusculis adscendentibus dichotomis, ubique ferruginea. Folia caulina sublaxe conferta, crispula, vix spiraliter torta, madore patentia, reflexiuscula, vix corrugata v. lævia, nervo profunde canaliculato in apiculum producto, margine hic illic convexo, cellulis ubique valde incrassatis, minutissime rotundatis, basi rhomboideis; perichætialia latiora, nec exserta nec rugulosa. Theca in pedunculo breviusculo erecta, cylindraceo-oblonga, lævis, operculo conico acuminato brevi; calyptra glabra, vix scabra, ferruginea, angusta, laciniis inflexis; peristomii dentibus exterioribus angustis longis crassis obtusis linea longitudinali exaratis, interioribus in membranam conicam lutescentem superne in lacinias irregulares fissam basi integram conflatis.—*C. Müll. Syn.* i. 762.

Hab. Brasilia, Villa Rica in Minis generalibus, *Martius.*

28. S. SPHÆROPOMA (*Duby, Choix Crypt. Exot.* t. 3. f. 3). Dioica, repens, laxe pulvinata, humilis, basi ferrugineo-tomentosa, ramis brevibus 6–8 millim. altis 2–3-chotomis fuscis, sterilibus acutis. Folia caulina sicca densissime imbricata vix torta, madore erecto-patula, integerrima, nervo rufo-luteo excedente, interdum reflexo-mucronata, apice tenuissime papillata, cellulis partis superioris minutissimis quadratis, inferioribus rhom-

boideis quadrangulo-parallelogrammicisve, folia superne plana non carinata basi subconcava; perichætialia latiora, basi plus minus dilatata, sed non longiora. Seta brevis, 4–6 millim. alta, incurvata. Theca obpyriformis cylindricave, fusco-viridis, sicca tenuissime striata, annulo simplici, peristomii duplicis dentibus externis longis fuscis linea dilutiore exaratis transverse lineolatis, apice paulisper fissis, ciliis interioribus paulo brevioribus hyalinis plus minus angustis apice interdum fissis, operculo e basi globosa breviter subulato aureo-fusco; calyptra glabra, subscabra, facile decidua, fusca, ad apicem intensius colorata, acuta, capsulam æquans, basi appendicibus 5 (rarius 6) dilutioribus primo incurvis dein incurvo-reflexis, his acutis, illis truncatis.—*Duby, l. c.*

Hab. Mexico, prope Vera Cruz, ad arborum truncos, *Sumichrast.*

29. S. GRACILIS (*Hornsch. in Mart. Fl. Bras. Musc.* 35). Repens, gracilis, nuda, ramosa, ramis adscendentibus gracilibus sparse ramulosis foliosis. Folia sicca torta, canaliculata, integerrima, fuscescentia, nervo valido ferrugineo excurrente, cellulis subquadratis minutis obscuris.—*C. Müll. Syn.* i. 763.

Hab. Brasilia, *Martius.*

30. S. TRICHOMITRIA (*Schwægr.* t. 169). Rami fasciculatim ramosi. Folia densa, erecto-patentia, apicibus recurvis, oblongo-ligulata, rugulosa, nervo percurrente carinata, integerrima, margine inferne uno latere reflexa, cellulis basilaribus elongatis limitibus prominulis, superioribus rotundo-ovalibus obliquis; perichætialia interna majora, longiora, oblongo-ligulata, obtusa, mucrone minuto. Theca in pedunculo breviusculo, cylindracea, operculo conico acuminato, peristomii dentibus opacis, basi linea media notatis, dense papillosis, interni ciliis angustis; calyptra pilis flavis dense obtecta.

S. compacta, *C. Müll. Syn.* i. 763.

S. glauca, *C. Müll. l. c.* ii. 648.

Hab. Venezuela, Galipan (6000 ped.), *Wagner* (*S. glauca*). Brasilia, Montevideo, *Sellow*; Minas Geraës ad Pajol, *Gardner*, n. 67 (*S. compacta*); Rio, *Heward*, Parana, Fazenda de Tucanduva (2000 ped.), ad arbores, *Weir*, n. 97. Brasilia, ex *Herb. Sowerby.*

Rami unciales, in cæspitem congesti, erecti, superne fasciculatim ramosi. Folia fulva, nitida, sicca appressa, spiraliter contorta. Calyptra inferne pilis strictiusculis crispatulisve pilosa.

The distinctions on which *S. glauca* and *S. compacta* have been separated from *S. trichomitria* appear to be very slight.

41. DRUMMONDIA, Hook. in Drum. Musc. Amer. No. 62.

Musci graciles, in cæspitibus latis expansi, ramis humilibus. Folia parva. *Habitatio* ad arborum corticem, et in rupibus.

D. OBTUSIFOLIA (*C. Müll. Syn.* i. 686). Monoica, longe repens; ramis densius approximatis brevibus viridissimis, inferne sordidis, brevissime fastigiatim ramulosis, apice curviusculis, tenuibus. Folia subrecta, madore erecto-patentia, a basi latiuscule ovata, ad insertionem laxiuscule reticulata biplicata, angustate lanceolata acuta, strictiuscula, nervo canaliculato carinata ante apicem evanido, margine basi distincte involuto apice erecto, rotundate areolata, viridissima; perichætialia latissime ovato-ligulata, obtusa, intima basi laxissime reticulata. Theca in pedunculo brevi, ovata, magna, lævis, leptoderma, sordide fusca; calyptra glabra.

Hab. Andes Chilenses, *Pœppig*, n. 16 (*Macromitrium clavellatum*, Kunze).

Flos masculus ad basin fœminei, crassus, foliis perigonialibus latissime ovatis obtusis v. breviter ligulatis obtusatis, inferne laxe reticulatis subseminervibus, antheridiis magnis, paraphysibus copiosissimis superne brevissime articulatis elongatis flexuosis.—*C. Müll. l. c.*

42. ZYGODON, Hook. et Tayl. Musc. Brit. 70.

Musci graciles, cæspitosi, caulibus sæpius humilibus rarius elatis dichotome divisis. Folia parva, angusta. *Habitatio* in arborum cortice et ad rupes.

Sect. 1. EUZYGODON. *Caulis erectus, pulvinatim cæspitosus.*

Peristomium simplex, externum.
  Folia oblonga et lineari-lanceolata .... 1. *Z. Liebmanni.*
  Folia ovato-lanceolata, brevia .... 2. *Z. sordidus.*
Peristomium duplex.
  Folia inferne latiora longiuscule linearia, apice obtusa acuta.
    3. *Z. fasciculatus.*
  Folia oblongo-elliptica, acuta .... 4. *Z. Menziesii.*
  Folia lanceolata, basi ventricose concava ...... 5. *Z. ventricosus.*
  Folia oblongo-ligulata, obtusa .... 6. *Z. linguæformis.*
Peristomium simplex, internum.
  Cilia 16.
    Folia elliptico-oblonga oblongo-lanceolatave, acuta.
      7. *Z. subdenticulatus.*
    Folia elliptico-ligulata, acuta.............. 8. *Z. denticulatus.*
    Folia ovato-lanceolata, brevissime acuminata. 9. *Z. Goudotii.*
    Folia lanceolata, acuta .... 10. *Z. hamatus.*
  Cilia 8.
    Flores monoici vel synoici .... 11. *Z. angustatus.*
    Flores dioici.
      Folia integerrima vel apice haud dentata.
        Folia ovata oblongo-ovataque .... 12. *Z. papillatus.*
        Folia oblongo-lanceolata, acuminata.... 13. *Z. peruvianus.*
        Folia longa, sensim angustata, acuta .. 14. *Z. uncinatus.*
        Folia lanceolato-linearia, apice obtusiuscula.
          15. *Z. brevicollis.*

Folia angusta subspathulato-elliptica lineariave, acuta. 16. *Z. stenocarpus.*

Folia breviter ovato-lanceolata .... 17. *Z. Ehrenbergii.*

Folia oblongo-lanceolata et lineari-lanceolata, acuminata. 18. *Z. cylindricus.*

Folia oblongo-lanceolata, acuminata.... 19. *Z. nivalis.*

Folia elliptico-ovalia, acuta apiculatave. 20. *Z. ovalis.*

Folia lineari-ligulata, acuta apiculatave. 21. *Z. linearifolius.*

Folia apice dentata.

Folia lanceolata longiuscula, nervo excurrente mucronata. 22. *Z. campylophyllus.*

Folia lanceolata, flexuoso-undulata ....23. *Z. Moritzianus.*

Folia elliptico-lanceolata, acuta subcuspidata. 24. *Z. andinus.*

Folia ovali-lanceolata, pentasticha, setulosa. 25. *Z. pichinchensis.*

Folia subelliptico-lanceolata, undique inserta, setulosa. 26. *Z. setulosus.*

Folia ovalia, acuta apice subacuminatave. 27. *Z. squarrosus.*

Sect 2. STENOMITRIUM. *Caulis subrepens, ramis erectis.*

Folia pentasticha, elongato-lanceolata, apice latiuscule acuta, denticulata. 28. *Z. quitensis.*

Folia pentasticha, lanceolata, integerrima ......29. *Z. pentastichus.*

Folia pentasticha, oblongo-lanceolata, apice lata obtusiuscula, margine crenulata ....30. *Z. crenulatus.*

Sect. 1. *Euzygodon.*

1. Z. LIEBMANNI (*Schimp.*; *C. Müll. Syn.* i. 673). Dioicus. Folia erecto-patentia, comalia e medio patula, margine integra; perichætialia erecta, haud vaginantia, ab externo ad internum sensim minora. Theca in pedunculo mediocri erecta, obovato-oblonga, brevicollis, operculo mediocriter rostellato; peristomii simplicis externi dentes bigeminati, breves, obtusi, fugacissimi.

Hab. Mexico, Pico de Orizaba ad arborum truncos, *Liebmann.*

A *Z. conoideo* Hook. et Tayl. (Europæ) proximo differt foliis densioribus minus patentibus, pedunculo breviore et crassiore, theca solidiore et peristomio simplici breviore.—*C. Müll. l. c.*

2. Z. SORDIDUS (*C. Müll.*; *Hampe in Ann. Sc. Nat.* ser. 5. iv. 325). Dioicus, dense pulvinatus, humilis, rubiginoso-tomentosus, luride viridis. Folia crispula, carinata, humida reflexa, inferiora remota, comalia dense aggregata longiora, torsione unica obliqua flexuosa, magis erecta, lineari-lanceolata, integerrima, nervo lutescente percursa, apiculata vel breve mucronata, cellulis angulato-punctatis dense seriatis lutescenti-diaphana;

perichætialia basi laxius reticulata. Seta brevis, erecta, apice parum incrassata. Theca ovato-pyriformis, parum obliqua, operculo conico-subulato obliquo dimidiam thecam metiente vel paulo longiore; peristomium externum simplex (?), dentibus per paria approximatis late lanceolatis flavescentibus.—*Hampe, l. c.*

Hab. Andes Bogotenses, Pacho (2000 metr.), in sylvis ad arbores deoperculatus, *Lindig et Triana.*

3. Z. FASCICULATUS (*Mitt. in Hook. Kew Journ.* iii. 351). Dioicus, inferne radiculosus fuscus; caulis gracilis. Folia a basi brevi erectiore sensim patentia, medio recurva, inde ad apicem usque recta, oblique deorsum spectantia, nervo sub apice evanido carinata, marginibus integerrimis, cellulis rotundis obscuris brevissime papillosis, basi pluribus parvis oblongis lævibus; perichætialia conformia. Theca in pedunculo brevi, ovalis, pyriformis, operculo subulato, peristomii dentibus obtusis latiusculis, ciliis angustis 8 æquilongis.

Hab. Andes Quitenses, *Jameson,* n. 52; in montibus Tunguragua, Titaicun, et Pichincha, secus pagum Nono (8000–11,000 ped.), ad arbores, *Spruce,* n. 118.

Caulis ½–1-uncialis. Folia ¾-linearia, viridia fuscescentia. Pedunculus 3-linearis.

4. Z. MENZIESII (*Arn. Disp. Méth. Mousses,* 15). Dioicus, humilis, inferne radiculis fuscis intertextus. Folia patentia, nervo latiusculo sub apice desinente carinata, marginibus medio recurvis reflexisve, cellulis basi oblongis rectangulis pellucidis, superioribus rotundis obscuris lævibus, marginalibus a basi ad medium usque angustis elongatis, limbum angustum pellucidum ob marginis flexuram inconspicuum formantibus; perichætialia erecta, longiora, cæterum conformia, cellulis fere usque ad apicem elongatis. Theca in pedunculo breviusculo, ovalis, collo sensim attenuato, operculo conico brevirostro, peristomii dentibus latis pallidis bigeminatis, apicibus secedentibus, interni ciliis subæquilongis 8.

Codonoblepharum Menziesii, *Schwægr.* 142, t. 137.

Hab. Ins. Chiloe, *Lobb*; Chili, *Pœppig, Philippi, Lobb.*

Caulis 2–6-linearis. Folia vix lineam longa, fere nitida, viridia fuscescentia. Pedunculus 2–4-linearis.

5. Z. VENTRICOSUS (*C. Müll. Syn.* i. 674). Humilis, laxe foliosus, parce ramosus. Folia erecto-patentia, curviuscula, integra v. cellulis margine prominulis, nervo excurrente; perichætialia nervo evanido. Theca e collo brevi oblongo-elliptica, deoperculata ore plicata, 6-striata, breviter pedunculata, operculo conico brevi recto; peristomii duplicis dentes externi lanceolati, breviusculi, latiusculi, rugulosi, interni ejusdem formæ illos æquantes, linea longitudinali instructi, pallidi.

Hab. Chili, in ramis arborum, *Philippi.*

From the description it may be suspected that this species should be referred to *Orthotrichum* or *Ulota.*

6. **Z. LINGUÆFORMIS** (*Hampe in Ann. Sc. Nat.* ser. 5. iv. 324). Monoicus, pulvinato-compactus, humilis, fastigiatus, olivaceo-viridis; caulis subsimplex vel apice diviso-ramosus, basi fusco-fibrillosus, erectus. Folia carinata, humida patentia, sicca convoluta accumbentia, nervo prominente fusco ante apicem evanido, cellulis dense aggregatis rotundis, basilaribus hyalinis, cæteris papillosis fere opacis. Seta erecta, brevis. Theca longicolla, elongato-pyriformis, parum obliqua erecta, operculo brevi conico oblique rostellato; peristomii dentibus exterioribus geminatis lato-lanceolatis obtusis, siccis reflexis, interioribus ciliis subulatis erectis subæqualibus; calyptra scabriuscula.—*Hampe, l. c.*

Hab. Andes Bogotenses, Tequendama (2500 metr.), in sylvis ad truncos vetustos, *Lindig.*

Z. obtusifolio Hook. similis, sed calyptra scabriuscula primo visu differt.—*Hampe, l. c.*

7. **Z. SUBDENTICULATUS** (*Hampe in Ann. Sc. Nat.* ser. 5. iv. 326). Monoicus synoicusque, inferne radicellis ferrugineis tomentosus. Folia a basi brevi erectiore angustiore angulis decurrentibus patentia, apice acuta subcuspidata, nervo sub apice evanido carinata, marginibus apicem versus dentatis, cellulis basi paucis elongatis pallidioribus, superioribus omnibus hexagonis rotundatis minute papillosis; perichætialia interna breviora, angustiora. Theca in pedunculo elongato pallido, ovali-elliptica, collo sensim angustato, ore parvo, operculo subulato obliquo, peristomii ciliis 16 brevibus fugacissimis; calyptra ultra medium thecæ descendens.

Hab. Andes Quitenses, in montibus Tunguragua (6500 ped.), Guayrapata, et Pichincha (10,000 ped.), *Spruce*, n. 116. Nova Granata, *Purdie.* Andes Novo-Granatenses, Paramo inter Bogota et Choachi (9800 ped.), in ramis arborum, *Weir*, n. 173, et inter Tipaquira et Pacho, ad ramos arborum (8500 ped.), *Weir*, n. 273.

Habitu et statura *Z. denticulati.*

8. **Z. DENTICULATUS** (*Tayl. in Hook. Lond. Journ.* vi. 329). Dioicus, inferne radicellis intertextus. Folia a basi erectiore recurva, semitorta, squarrosa, nervo sub apice evanido carinata, marginibus apice denticulatis, cellulis basi ad nervum paucis oblongis pellucidis, reliquis fere omnibus parvis rotundis obscuriusculis minute papillatis; perichætialia interna erecta, breviora, lanceolata acuminata. Theca in pedunculo elongato, ovali-cylindrica, operculo subulato, peristomio externo nullo, interno ciliis 16 brevibus.

Hab. Andes Quitenses, in monte Chimborazo, *Jameson*; in montibus Tunguragua, Pichincha, Llalla, Mulmul, &c. (8000–10,000 ped.), *Spruce*, n. 114; in monte Pichincha, *Jameson*. Andes Chilenses, Sachapata, *Lechler*, n. 2697.

Caulis ½–1-uncialis. Folia lineam longa, luteo-viridia. Pedunculus ½–1-uncialis. Theca lineam longa.

Z. Reinwardti Braun (archipelagi Indici) simillimus.

9. Z. GOUDOTII (*Hampe in Ann. Sc. Nat.* ser. 5. iv. 325). Dioicus, croceus, basi rubiginoso-tomentosus, subfastigiatus; caulis gracilis, diviso-ramosus, laxe foliatus, parum curvatus, adscendens. Folia inferiora fuscata, superiora crocea, nervo aureo ante apicem evanido carinata, sicca accumbentia, humida erecto-patentia; perichætialia subconformia, erecta, cellulis basilaribus anguste elongato-quadratis aureo-transparentibus, cæteris papillosis punctatis, lutescenti-diaphanis; perigonialia cordata, epapillosa, laxe reticulata, subhyalina. Seta gracilis, semiuncialis vel paulo longior. Theca oblongo-pyriformis, erecta, ore aperto, sicca plicato-striata; peristomium simplex, internum, ciliis 16 hyalinis; calyptra fuscata, angusta.—*Hampe, l. c.*

Hab. Andes Bogotenses, Tolima, Summita, *Goudot*, n. 13.

Z. cylindrico affinis, differt statura minore et gracilitate, seta breviore et theca ampliore.—*Hampe, l. c.*

10. Z. HAMATUS (*Mitt.*). Caulis dichotomus. Folia a basi patente recurva, uncinata, nervo sub apice desinente carinata, integerrima, cellulis fere omnibus rotundatis minute papillosis.

Hab. Andes Quitenses, *Jameson*; fragmenta pauca inter *Z. denticulatum.*

Z. denticulato similis, folia autem longiora apice angustiora hamato-recurvata.

11. Z. ANGUSTATUS (*Schimp.*; *C. Müll. Syn.* i. 676). Polygamus, tomento rufo ad apicem usque obductus. Folia conferta, patentia, lineari-acuminata, carinata, margine plana vel hic illic reflexa. Theca in pedunculo breviore suberecto elongato, longicolla, operculo longe rostellato; peristomium imperfectum.

Hab. Mexico ad montem Orizaba, *Liebmann.*

Z. viridissimo Brid. (Europæ) proximus, primo intuitu theca elongata distinctus. Flores masculi secus hermaphroditos et his similes, antheridiis et paraphysibus copiosis.—*C. Müll. l. c.*

12. Z. PAPILLATUS (*Mont. in Ann. Sc. Nat.* ser. 3. iv. 106). Caules graciles, inferne radicellis rufis in cæspitem compactum intertexti. Folia inter se laxe disposita, mucrone minuto subdiaphano, a basi brevi cauli appressa, angulis decurrentibus patentia, nervo sub apice desinente carinata, marginibus papilloso-crenulatis, cellulis omnibus rotundis obscuris papilliferis; "perichætialia similia, basi cellulis laxis crebrioribus. Theca in pedunculo brevi tenuissimo erecta, minuta, obovalis, haploperistomata, ciliis internis octonis, operculo oblique rostellato."—*C. Müll. Syn.* i. 670.

Hab. Chili australis, *C. Gay*, ex *Herb. Montagne.*

Caulis ½-uncialis. Folia ¼-linearia, viridia.

13. Z. PERUVIANUS (*Sulliv. in Amer. Explor. Exped.* 1859, 6, t. 4). Elatus, fastigiate ramosus. Folia squarrosa, carinata, subcomplicata, marginibus leviter recurvis subundulatis, costa sub apice evanida. Capsula

ovali-obovata, arcuata, longicolla, sicca costata, brevipedunculata, peristomio simplici 8-dentato, operculo longirostrato.

Hab. Andes Peruvianæ, Casa Concha (15,000 ped.).

"Grows in large spongy rust-coloured tufts. Stems 3–4 inches high, beset with short radicles; leaves decurrent."—*Sulliv. l. c.*

14. Z. UNCINATUS (*Mitt.*). Folia densa, a basi latiore erecta, pellucida, ubique cellulis elongatis angustis areolata, sensim uncinato-recurva, nervo sub apice evanido profunde carinata, alis folii convexis, cellulis anguloso-rotundis obscuris inter se distinctis brevissime papillosis; perichætialia erecta, lanceolata, acuminata. Theca in pedunculo breviusculo, oblongo-cylindracea, plicata, operculo subulato.

Hab. Ins. Chiloe, *Lobb.*

Caulis ½-uncialis. Folia 2-linearia, viridia, fuscescentia, basi pro spatio subquadrato cellulis omnibus pellucidis. Pedunculus 4-linearis. Theca lineam longa.

15. Z. BREVICOLLIS (*Mitt.*). Humilis. Folia a basi erectiore patentia, nervo sub apice evanido carinata, marginibus integerrimis, cellulis ubique rotundis obscuriusculis fere lævibus basi pellucidioribus; perichætialia interna lanceolata, acuta. Theca in pedunculo breviusculo, ovalis, collo brevi, ore satis magno.

Hab. Andes Quitenses, Cordillera occid. ad Pallatanga (6000 ped.), *Spruce*, n. 115.

Caulis ½-uncialis. Folia ¾-linearia, sordide viridia. Pedunculus 2½-linearis.

Species a reliquis forma foliorum et theca brevicolli ut videter diversa.

16. Z. STENOCARPUS (*Tayl. in Hook. Lond. Journ.* vi. 330). Caulis fastigiatim ramosus, inferne radiculosus. Folia a basi erectiore angustiore patentia, interdum semitorta, acuta apiculatave, nervo sub apice evanido carinata, marginibus integerrimis, cellulis in parte erectiore angustis oblongisque pellucidis, superioribus rotundatis obscuris inter se distinctis, papillis brevissimis; perichætialia interiora brevia, erecta, lanceolata, pallidiora. Theca in pedunculo breviusculo, elliptico-oblonga, operculo subulato.

Hab. Andes Quitenses, in monte Pichincha, *Jameson*, ex *Herb. Taylor*; in monte Picillun, *Jameson.*

Caulis ½-uncialis. Folia fere lineam longa, viridia fuscescentia. Pedunculus 2½-linearis. Theca lineam longa.

17. Z. EHRENBERGII (*C. Müll. Syn.* i. 676). Subrobustus, elatiusculus, erectus, apice incurvo, valde fastigiatim ramulosus, luteo-viridis, inferne ferrugineus, inter folia usque ad apicem radiculosus. Folia dense conferta, erecta, parum torta, madefacta superne subrecurvo-patula, e basi subdecurrente angusta, minute quadrate et pellucide reticulata, complicate concava, undulata, apice torsione unica obliqua, integerrima, mar-

gine convexiuscula, e cellulis minutissimis rotundatis viridissimis subopacis tenuissime papillosis areolata; perichætialia similia. Theca in pedunculo perbrevi.

Hab. Mexico, *C. Ehrenberg.*

Archegonia numerosa, paraphysibus brevioribus paucis filiformibus acutis pellucidis mixta.—*C. Müll. l. c.*

18. Z. CYLINDRICUS (*Schimp.*; *C. Müll. Syn.* i. 672). Conspicuus, divisus, ad apicem usque tomento rufo obtectus. Folia inferiora erecta, superiora a basi erecta patula et recurva, illa oblongo-lanceolata, hæc lineari-lanceolata acuminata; perichætialia erecta lineari-lanceolata, haud vaginantia; omnia carinata. Theca in pedunculo elongato erecta, elongato-cylindrica, longicolla; calyptra ad mediam thecam fere producta, operculo a basi conica subulato; peristomium simplex internum, ciliis brevibus pallidis.

Hab. Mexico, Pico de Orizaba, *Liebmann.*

E generis majoribus et habitu ad *Z. tetragonostomum* et *Reinwardti* Braun (archipelagi Indici) accedens, peristomio et thecæ membrana huicce proximus.—*C. Müll. l. c.*

19. Z. NIVALIS (*Hampe in Ann. Sc. Nat.* ser. 5. iii. 326). Caulis prolifero-elongatus, usque ad ramos ferrugineo-tomentosus, ramis apice capitato-stellatis, totus rufescens. Folia laxe imbricata, superiora congesta, nervo lutescente percursa, a basi sulcata carinata, paulisper undulata, erecto-patentia, sicca flexuoso-crispata, cellulis basilaribus linearibus, cæteris papillosis angulato-punctatis, lutescentia; perigonialia basi laxius reticulata, cellulis elongatis pentagonis, intermediis anguste ellipticis, in acumine papillosis punctatis.—*Hampe, l. c.*

Hab. Andes Bogotenses, Summita regione nivali, *Goudot*, n. 11.

20. Z. OVALIS (*Mitt.*). Caules inferne radicellis rubiginosis intertexti. Folia a basi angustata decurrente erectiore patula, marginibus flexuosis integerrimis, nervo sub apice evanido carinata, cellulis fere omnibus rotundis papillosis obscuris, basi paucis pellucidis flavis, nonnullis ad nervum oblongis; perichætialia interna brevia, lanceolata, erecta. Theca in pedunculo elongato, ovalis, peristomii ciliis angustis.

Hab. Andes Quitenses, in monte Chimborazo, *Jameson.*

Caulis ½–1½-uncialis, fastigiatim ramosus, fere ad apicem radiculosus. Folia ⅔-linearia, sæpe semitorta, fulva. Pedunculus 4-linearis.

21. Z. LINEARIFOLIUS (*Mitt.*). Caulis gracilis, inferne radicellis rubiginosis in cæspitem intertextus. Folia a basi brevi cauli appressa, recurva, patula, semitorta, nervo sub apice evanido carinata, marginibus integerrimis, cellulis ubique rotundatis obscuris papillosis; perichætialia caulinis conformia, externa latiora basi pellucidiora, cellulis paucissimis oblongis. Theca in pedunculo elongato, oblongo-elliptica, peristomii ciliis angustis.

Z. papillatus, *Mitt. in Hook. Kew Journ.* iii. 356.

Hab. Andes Quitenses, *Jameson*, n. 112 *b.*

Caulis ½-uncialis. Folia ¾-linearia, viridia fulvescentia. Pedunculus ½-uncialis. Theca lineam longa.

22. Z. CAMPYLOPHYLLUS (*C. Müll. Syn.* i. 680). Elongatus, gracilis, flexuosus, ramis dichotomis longis pluries divisus, intense viridis, inferne tomento radiculoso ferrugineus. Folia erecto-patentia, crispula, madefacta valde arcuato-reflexa, sæpe circulum fere delineantia, basi decurrentia, apice grosse et irregulariter serrata, carinata, marginibus perfecte convexis igitur veluti revolutis, ubique e cellulis minutis rotundatis tenuissime papillosis haud opacis areolata, flavida; perichætialia similia. Theca in pedunculo breviusculo erecta, anguste longe pyriformi-oblonga.

Hab. Mexico, *C. Ehrenberg.*

23. Z. MORITZIANUS (*C. Müll. Syn.* i. 678). Inferne tomentosus, elatiusculus, parce ramosus, erectiusculus. Folia laxe imbricata, erecto-patentia, madefacta plus minus recurva, apice parce et remote dentata, convexiuscule complicato-carinata, semel torta, margine haud revoluta, ubique cellulis (basis infimæ laxioribus pellucidioribus exceptis) minute rotundate subopace areolata, minutissime papillosa, nervo in mucronulum brevissimum acutum producto flavido; perichætialia erecta, lanceolato-acuminata, breviora, tenuiora, inferne pellucidius longius laxius reticulata, superne integra. Theca in pedunculo elongato flavido tenuissimo erecta, cylindrica, longiuscula subcurva, olivacea, dein fusca, operculo conico longe subulato incurvo; peristomium e ciliis tenerrimis filiformibus fugacissimis formatum.

Hab. Columbia, prov. Merida, in montibus nivosis, *Moritz*; Galipan (6000 ped.), ad arbores, *Wagner.*

Archegonia circiter 10, paraphysibus numerosis filiformibus acutis flavidis mixta. Calyptra glabra. Habitu *L. Reinwardti*; a quo foliis semper reflexis, inflorescentia dioica et peristomio 8-ciliato facile distinguitur. —*C. Müll. l. c.*

24. Z. ANDINUS (*Mitt.*). Inferne radiculosus. Folia dimidio inferiore erecto-patente, superiore recurvo-patente, nervo sub apice acuto subcuspidato evanido carinata, marginibus basi supra angulos decurrentes crenulatis, inde integerrimis, apicem versus dentatis, cellulis basi paucis elongatis, exinde ad apicem usque rotundatis, minutissime papillosis; perichætialia a basi latiore lanceolato-subulata. Theca in pedunculo elongato pallido, ovali-cylindracea, plicata, collo sensim attenuato, operculo subulato curvato, peristomii ciliis brevibus angustis fugacissimis.

Hab. Andes Quitenses, in monte Pichincha (9000 ped.), in devexu australi, *Spruce*, n. 117.

Caulis dichotome fastigiatus, ½–2-uncialis. Pedunculus 6–7-linearis. *Z. denticulato Z. subdenticulato*que similis.

25. Z. PICHINCHENSIS (*Tayl.*; *Mitt. in Hook. Kew Journ.* iii. 356). Caulis elongatus, fere ad apicem inter folia radiculosus. Folia inter se remotiuscula, dimidio inferiore erecto cauli appresso, superiore uncinato-recurvo sæpius semitorto acuto, nervo dorso setuloso sub apice evanido carinata, marginibus setulis ciliatis basi decurrentibus, cellulis fere ubique parvis rotundis obscuris, utrinque papillis setuliformibus asperis; perichætialia longiora, interna erecta, lanceolato-acuminata, serrulata, cellulis elongatis pellucidis. Theca in pedunculo elongato, oblongo-elliptica, operculo subulato elongato, peristomii interni ciliis angustis.

Didymodon? pichinchensis, *Tayl. in Hook. Lond. Journ.* vii. 280.

Hab. Andes Quitenses, in montibus Pichincha et Chimborazo, *Jameson.*

Caulis 1–5-uncialis, gracilis, ruber. Folia ½-linearia, viridia, rufescentia fuscaque. Pedunculus ½-uncialis. Theca ⅔-linearis.

26. Z. SETULOSUS (*Mitt.*). Caulis elongatus, inter folia radicellis appressis sparse tomentosus. Folia acuta, basi angulis decurrentibus, tertia parte inferiore cauli appressa, inde subito divaricata, recurvula, nervo percurrente carinata, marginibus inferne setulis ciliatis, in medio folio recurvis, apice setuloso-denticulatis, cellulis basilaribus paucis oblongis, superioribus omnibus rotundatis obscuris inter se discretis, utrinque dense setuloso-papillatis; perichætialia conformia, interna parum angustiora. Theca in pedunculo brevi, cylindracea, operculo subulato.

Hab. Andes Novo-Granatenses, *Weir*, n. 334.

Caulis 2½-uncialis, gracilis, subsimplex, radicellis rubro-fuscis. Folia lineam longa, superiora viridia, inferiora fusca. Pedunculus 3-linearis.

Habitu *Z. pichinchensis* sed paullulo gracilior, foliis angustioribus.

27. Z. SQUARROSUS (*Tayl.*; *C. Müll. Syn.* i. 675). Caulis elongatus, inter folia radicellis rubris laxe obtectus. Folia inter se remota, lata, tertia parte inferiore erecta cauli appressa, angulis longe decurrentibus, parte superiore patenti-incurva sæpe semitorta, nervo lævi sub summo apice evanido carinata, marginibus in parte erectiore decurrenteque denticulatis, in parte patente ob papillarum prominentiam crenulatis, cellulis basilaribus elongatis angustis pellucidis lævibus, superioribus rotundatis obscuris utrinque papilliferis; perichætialia interna lanceolata, tenera, cellulis elongatis pellucidis areolata, vaginulam haud excedentia. Theca in pedunculo elongato, ovali-cylindracea, ore cingulo rubro.

Leptostomum squarrosum, *Tayl. in Hook. Lond. Journ.* v. 43.

Aulacomnion flexifolium, *Wils. l. c.* 448, t. 15.

Hab. Andes Quitenses, in monte Pichincha versus apicem, *Jameson.*

Caulis 4-uncialis altiorque, gracilis, inferne tomento radicellarum rubiginosarum intertextus. Folia vix lineam longa, luteo-viridia, pallida. Pedunculus uncialis. Theca 1½-linearis, peristomio (ex observationibus Taylori) interno ciliis brevibus in membrana brevi impositis, externo deficiente.

Sect. 2. *Stenomitrium.*

28. Z. QUITENSIS (*Mitt.*), Rami elongati. Folia densa, pentasticha, a basi erectiore erecto-patentia, nervo percurrente carinata, cellulis superioribus rotundis obscuris, basilaribus oblongis angustis pellucidis firmis.

Hab. Andes Quitenses, inter cæspites *Macromitrii oblongi* Tayl., *Jameson.*

Rami 2-unciales. Folia 1½-linearia, fusco-viridia, sicca appressa.

29. Z. PENTASTICHUS (*Mont. in C. Gay, Chil. Bot. Crypt.* t. 5. f. 1, Aulacomnion). Caulis procumbens, radicans; rami erecti, simplices divisive, in cæspitem congesti. Folia ramea pentasticha, densiuscula, lanceolata, sensim acuminata, tertia parte inferiore erecta, cauli appressa, cellulis elongatis pellucidis, nonnullis flavis in fascias dispositis, exinde uncinato-recurva, apicibus deorsum spectantibus, nervo concolori sub apice evanido carinata, alis convexis, cellulis parvis rotundis obscuris brevissime papillosis areolata; perichætialia plura erecta, lanceolata, pellucida. Theca in pedunculo elongato, cylindracea, plicata, operculo subulato; peristomii dentes 16.

Hab. Chili, *Herb. Montagne*; Arique et Valdivia, *Lechler*, n. 528. Ins. Chiloe, *Cuming.*

Rami ¼-1-unciales. Folia lineam parum excedentia.

30. Z. CRENULATUS (*Mitt.*). Rami laxe cæspitosi, inferne radicellis copiosis obtecti. Folia quinquefaria, patentia, patula recurvaque, apiculo brevi terminata, nervo sub apice desinente carinata, marginibus toto ambitu cellulis prominulis crenulatis, cellulis omnibus rotundatis obscuriusculis papillosis.

Hab. Andes Quitenses, in sylva Canelos (5000 ped.), *Spruce*, n. 138.

Habitu et statura *Z. fasciculato* similis, caulis autem repens, radicellas copiosas fuscas emittens. Folia sicca spiraliter ad caulem appressa tortaque.

43. APALODIUM.

Musci graciles, humiles, parum ramosi. Folia cellulis elongatis pellucidis areolata. Thecæ longe pedunculatæ. Flores monoici, masculi gemmacei, in ramulis propriis terminales. *Habitatio* in fissuris rupium et ad terram.

Folia lineari-elliptica .... 1. *A. pellucens.*
Folia anguste linearia, sensim angustata .... 2. *A. australe.*

1. A. PELLUCENS (*Hook. Ic. Pl.* t. 34, Orthodontium). Laxe cæspitosum. Folia inferiora erecta, superiora in comam congesta, patenti-recurva, acuta, nervo infra apicem desinente carinata, marginibus integerrimis subindistincteve serrulatis, cellulis elongatis ellipticis acutis. Theca in pedunculo gracili pallido inclinata, sicca plicata, sporangio ovali, collo sensim attenuato, operculo rostrato, peristomii dentibus angustis luteis, processibus æquilongis pallidis angustis, articulationibus prominulis. Flos masculus gemmiformis, in ramulo brevi infra perichætium enato terminalis.

Orthodontium longisetum, *Hampe in Linnæa*, xxxii. 129.

Hab. Andes Bogotenses, in sylvis Manzanos ad "Barrancos" (2700 metr.), *Lindig*; ad cataractam Tequendama ad ligna putrida (6800 ped.), *Weir*, n. 314. Andes Quitenses, Surruchucho prope Cuenca, *Jameson*.

Caulis ½–1½-uncialis. Folia 1½-linearia, pallide luteo-viridia, nitida. Pedunculus ½ unciam longus.

2. A. AUSTRALE (*Hook. fil. et Wils. Crypt. Ant.* t. 153. f. 5). Caulis brevis, ramosus. Folia in comam congesta, erecto-patentia, canaliculata, nervo percursa, marginibus integerrimis superne subflexuosis, cellulis angustis elongatis. Theca in pedunculo rufo erecta subinclinatave, sicca plicata, sporangio ovali collo dimidio breviore, operculo oblique rostrato; peristomium depressum, dentibus pallidis teneris, internum processibus angustis subulatis longioribus sessilibus. Flos masculus parvus.

Hab. Fuegia, Hermite Island, ad vegetabilia putrida, *J. D. Hooker*.

Caulis lineam altus, inferne ramosus. Folia 1½–2 lineas longa, fulvo-viridia. Pedunculus 4-linearis.

In the figure in the 'Flora Antarct.' the internal peristome is represented with an exserted basilar membrane.

Tribus VII. FUNARIEÆ.

44. EPHEMERUM, Hampe in Linnæa, xii. 552.

Musci minutissimi, caulibus subnullis sæpe e filamentis viridibus confervoideis oriundis. Folia angusta, perichætialia reliquis longe majora. Thecæ globosæ, immersæ, teneræ, calyptris parvis uno latere fissis vel plurilobatis.

E. ÆQUINOCTIALE (*Spruce*). Caulis brevissimus, simplex vel innovatione ramosus. Folia lanceolata, inferne erectiuscula, supra medium patula recurva, integerrima, inferne nervo valde indistincto obsoletove notata, cellulis laxissimis areolata. Theca globosa, lævis vel apiculo minutissimo terminata; calyptra archegonio styliformi elongato; sporæ fuscæ. Flos masculus e stolonibus confervoideis fœmineo connexis oriundus, vel in ramulo brevi lateralis, antheridia pauca includens.

Hab. Fl. Negro, S. Gabriel in terra Helicibus quibusdam ejecta, *Spruce*, n. 443.

Theca ex observationibus Sprucei in statu perfecte maturo cinnabarina.

E. tenero Europæ affine, sed theca diversicolor et folia flaccidiora, superne apices versus latiora.

45. LEPTANGIUM, Mont.

Musci pusilli, caulibus brevibus crassis carnosis pallidis, ramis paucis subrepentibus. Folia brevia, lata, cellulis pellucidis limitibus angustis. Thecæ subsessiles, globosæ. *Habitatio* ad terram humidam.

L. IMBRICATUM (*Mitt.*). Folia teretiuscule imbricata, orbiculata, concava, in apiculum hyalinum producta, nervo angusto infra basin apiculi desinente percursa, cellulis inferioribus exacte quadratis, superioribus subquadratis, omnibus utriculo contracto repletis.

Hab. Brasilia, Montevideo, *Gibert.*

Caules 2–4 lineas alti. Folia absque operculo ¾ lineam longa, pallide glauco-viridia.

46. PHYSCOMITRIUM, Brid. i. 97.

Musci humiles. Folia lata, oblonga obovatave, laxe areolata. Thecæ breves, amplæ, hemisphæricæ vel pyriformes, læves, gymnostomæ, calyptris magnis inflatis rostratis basi quinque-lobatis vel minoribus basi plurifidis. *Habitatio* in terram humidam vel limosam.

Sect. 1. APHANORHEGMA. *Theca breviter pedunculata. Calyptra parva, plurifida.*

Species unica.................................. 1. *P. cubense.*

Sect. 2. EUPHYSCOMITRIUM. *Theca pedunculo longiusculo exserta. Calyptra magna.*

Folia integerrima, subcymbiformia, cucullata .... 2. *P. turgidum.*
Folia superne serrulata.
Folia obovata, brevissime apiculata............ 3. *P. serrulatum.*
Folia oblongo-ovata, acuminata, argute dentata.. 4. *P. subsphæricum.*
Folia spathulata, acuta......................... 5. *P. umbonatum.*
Folia oblongo-elliptica........................ 6. *P. Thieleanum.*
Folia late obovata, acumine brevi .... 7. *P. cupuliferum.*
Folia elliptico-spathulata...................... 8. *P. Orbignianum.*

Sect. 1. *Aphanorhegma*, Sulliv.

1. P. CUBENSE (*Mitt.*). Caulis brevis. Folia obovata, acuminata, apiculo curvato, nervo virente in inferioribus supra medium evanescente, in superioribus ut plurimum ad apicem producto, marginibus a medio ad apicem serratis, cellulis rhomboideis pentagonis quadratisque immixtis pellucidis. Theca sessilis, cupuliformis, operculo hemisphærico mamillato; calyptra parva, conica, basi pluries breviter fissa.

P. immersum, *Sulliv. in Proc. Amer. Acad.* 1861.

Hab. Ins. Cuba, *Wright*, n. 7.

P. immerso habitu staturaque simile, foliis autem latioribus, apiculo curvato, et calyptra breviore minoreque recedens.

Sect. 2. *Euphyscomitrium.*

2. P. TURGIDUM (*Mitt.*). Caulis elongatus. Folia laxe imbricata, ovalia, concava, subcymbiformia, cucullata, obtusiuscula, nervo tenui vix ultra medium producto, marginibus integerrimis, cellulis oblongis; comalia longiora, concava. Theca in pedunculo elongato, pyriformis, operculo acuminato brevirostro.

Hab. Andes Quitenses, in monte Chimborazo, *Jameson.*

Caulis 3 lineas altus, diametro cum foliis linearis. Pedunculus 3-linearis.

Species ob folia concava imbricata ab omnibus congeneribus distinctissima.

3. P. SERRULATUM (*Mitt.*). Folia caulina obovata, brevissime apiculata, nervo sub summo apice evanido, marginibus superioribus dentibus approximatis serrulatis, cellulis inferioribus oblongis, superioribus rotundo-hexagonis; comalia magis ovalia, acuta. Theca in pedunculo breviusculo, turbinata, operculo magno acuminato brevirostro, calyptra longirostrata.

Hab. Brasilia, ins. Sanctæ Catharinæ, *Pabst*, ex *Herb. C. Müller.*

Caulis ½-uncialis. Folia 1½ lineam longa, ¾ lineæ lata. Pedunculus 2-linearis.

P. Thieleano simile, sed foliis latioribus diversiformibus et serraturis marginum e cellulis extus curvatis distincte dentiformibus et cellulis dimidio minoribus diversum.

4. P. SUBSPHÆRICUM (*Schimp.*). Caulis perbrevis. Folia patula, flexuosa, oblongo-ovata, superiora interdum late lanceolata, acuminata, deplanato-concava, margine dense et argute dentata, nervo sub apice evanido, cellulis minoribus. Theca in pedunculo trilineari erecta, deoperculata hemisphærica nec pyriformis, operculo deplanato-convexo, oblique rostellato; calyptra margine lacera.—*C. Müll. Syn.* ii. 544.

Hab. Mexico, Pico de Orizaba (11,000 ped.), *Liebmann.*

5. P. UMBONATUM (*Mitt.*). Folia patentia, spathulata, acuta, nervo angusto sub summo apice evanido, marginibus inferioribus recurvis, a medio ad apicem usque dentibus brevibus serrulatis, cellulis inferioribus oblongis laxis, superioribus minoribus quadrato-hexagonis, omnibus pellucidis. Theca in pedunculo longiusculo pyriformis, operculo magno convexo acuminato; calyptra longe subulato-rostrata.

Hab. Brasilia, prope Corritiba in sylva ad latera rivuli (2000 ped.), *Weir*, n. 18.

Caulis 5–6 lineas altus. Folia 2-linearia, latitudine ½-linearia, viridia. Pedunculus 3–4 lineas longus.

P. Thieleano simile, sed foliis magis spathulatis et operculo breviore absque dubio diversum.

6. P. THIELEANUM (*Hampe, Icon. Musc.* 30). Humile. Folia ob-

longo-elliptica, acuta, vix acuminata, margine apicem versus serrulata, nervo sub apice evanescente. Pedunculus breviusculus. Theca pyriformis, sporangio subgloboso, collo sensim attenuato, operculo conico obtuso, demum exsiccatione in rostellum contracto.

Hab. Brasilia, Montevideo, *Sellow et Gibert*, n. 664, *Herb. Hooker.*

Caulis 2-linearis. Folia $1\frac{1}{2}$-linearia, pallide viridia. Pedunculus 2-linearis.

7. P. CUPULIFERUM (*Mitt.*). Caulis elongatus. Folia late obovata, acumine brevi, nervo infra apicem evanido, comalia interiora magis ovalia acuminata, nervo percursa, marginibus serrulatis, cellulis superioribus rotundo-hexagonis, inferioribus oblongis rectangulatis. Theca in pedunculo elongato, poculiformis, brevicollis, operculo convexo, apiculo brevi.

P. spathulatum, *Sulliv. in Proceed. Amer. Acad.* 18.

Hab. Ins. Cuba, *Wright*, n. 6.

8. P. ORBIGNIANUM (*Mont. in D'Orbigny Voy.* vii. 87). Folia superiora elliptico-spathulata, acuminata, nervo infra apicem evanido, marginibus superioribus spinuloso-serrulatis, cellulis superioribus oblongis brevioribus rotundis hexagonisque. Theca in pedunculo elongato, turbinata, " operculo plano-convexiusculo mamillato."

Hab. Corientes, ex *Herb. Montagne.*

Caulis 4-linearis. Folia superiora $1\frac{1}{2}$ lineam longa. Pedunculus 5 lineas longus.

Species ut videtur satis distincta, post exsiccationem difficillime emollienda.

47. ENTOSTHODON, Schwægr.

Musci humiles. Folia lata vel angusta. Thecæ plus minus longe pedunculatæ, pyriformes vel clavatæ, gymnostomæ vel peristomio parvo instructæ. *Habitatio* ad terram humidam.

Sect. 1. AMPHORITHECA. *Theca gymnostoma.*

Folia integerrima.	
Folia oblongo-ovata, acuminata	1. *E. lutescens.*
Folia oblongo-lanceolata, longe acuminata, quasi pilifera.	2. *E. Lindigii.*
Folia oblongo-ovata, cuspidata............	3. *E. pseudomarginatus.*
Folia elongato-oblongo-lanceolata, breviter acuminata.	4. *E. undulatus.*
Folia subovata, obtusiuscule acuta	5. *E. longicollis.*
Folia late ovalia, obtuse acuta	6. *E. obtusifolius.*
Folia ovali-acuminata	7. *E. clavellatus.*
Folia superne serrata.	
Folia elongate oblonga	8. *E. andicola.*

Folia obovata, acuta .... 9. *E. Bonplandii.*
Folia lanceolato-subulata .... 10. *E. acidotus.*

Sect. 2. EUENTOSTHODON. *Theca peristomata.*
Folia integerrima.
Folia oblonga obovatave, obtusa .... 11. *E. eurystomus.*
Folia oblongo-ovalia, obtusiuscule acuta.... 12. *E. chiloensis.*
Folia serrulata .... 13. *E. Mathewsii.*

Sect. 1. *Amphoritheca*, Hampe.

1. E. LUTESCENS (*Hampe in Ann. Sc. Nat.* ser. 5. iii. 339). Monoicus, humilis, aggregatus, lutescens; caulis basi auctus, fructifer major, basi attenuatus, superne rosulatus. Folia oblongo-ovata, acuminata, integerrima, margine cellulis condensatis limbata, nervo lutescente apice evanido, cellulis amplis pellucidis interstitiis crassis circumdatis lutescentibus. Seta caulem duplo superans. Theca breviter pyriformis, ore erecto-patulo, operculo plano.

Hab. Nova Granata, Bogota, San Fortunato (2900 metr.), *Lindig.*

A ceteris affinibus foliis integerrimis differt.—*Hampe, l. c.*

2. E. LINDIGII (*Hampe in Ann. Sc. Nat.* ser. 5. iii. 341). Lutescens; caulis brevissimus, erectus. Folia concava, laxe imbricata, immarginata, oblongo-lanceolata, longe acuminata, quasi pilifera, integerrima, nervo aureo superne evanescente; cellulis laxis elongatis flavescenti-diaphanis. Gemma mascula radicalis. Seta crassa, adscendens. Theca pyriformis, clavata, operculo plano.

Hab. Nova Granata, Bogota, Pacho (3200 metr.) ad "Barrancas" in terra nuda dispersus, *Lindig.*

Physcomitrio apophysato Tayl. æmulus, sed *E.* (*Amphorithecæ*) *Jamesoni* magis affinis, differt foliis longe cuspidatis quasi piliferis.—*Hampe, l. c.*

3. E. PSEUDOMARGINATUS (*Hampe in Ann. Sc. Nat.* ser. 5. iii. 340). Pallide flavescens, humilis, gregarius, basi parce ramosus; caulis basi attenuatus, foliis parvis remotis patulis obsitus. Folia superiora in rosulam congesta, flaccida, humida planiuscula, sicca crispata, oblongo-ovata, cuspidata, margine sublimbata, cellulis flavidis prominentibus rude dentata, nervo flavescente ante apicem evanido, cellulis amplis, versus apicem minoribus pellucidis. Seta erecta, caulem triplo superans. Theca erecta, urnigera, ad basim attenuata, operculo plano.

Hab. Nova Granata, Bogota, Tequendama (2500 metr.) ad "Barrancas," *Lindig.*

4. E. UNDULATUS (*Hampe in Ann. Sc. Nat.* ser. 5. iii. 340). Elatior, intense viridis, aggregatus, basi radicibus fuscis adauctus, ramosus; caulis basi attenuatus, nudiusculus. Folia superiora in rosulam congesta, firmiora, valde undulato-flexuosa, humida nec plana, elongato-oblongo-lanceolata, breviter acuminata, margine cellularum serie unica flavicantium sublim-

bata, cellulis amplioribus basi subelongatis, intermediis latioribus, superioribus in acumine minoribus densioribusque subrhomboideis, nervo flavo apice evanido. Seta erecta, caulem duplo vel triplo superans. Theca parum obliqua, pyriformis, sicca apophysata, ore parum contracta, operculo umbonato planiusculo.

Hab. Nova Granata, Bogota, Guadelupe (3200 metr.), *Lindig.*

5. E. LONGICOLLIS (*Mitt.*). Caulis brevis. Folia comalia erecta, imbricata, concava, subobovata, obtusiuscule acuta, integerrima, nervo luteo sub apice desinente, cellulis pellucidis. Theca in pedunculo elongato flavido erecta, sporangio breviter ovali, collo attenuato æquilongo, operculo convexo.

Hab. Andes Quitenses, Baños (6000 ped.), *Spruce,* n. 448.

Caulis lineam longus. Folia parva ⅔-linearia, incurvo-imbricata. Pedunculus 6 lineas longus. Theca cum ejus collo lineam longa.

6. E. OBTUSIFOLIUS (*Mitt.*). Folia in caulibus sterilibus turgide julaceo-imbricata, late ovalia, obtusiuscule acuta, in fertilibus comalia erecto-patentia, ovali-acuminata, apicibus obtusiusculis acutisve, marginibus incurvis integerrimis, nervo sub apice evanido, cellulis laxis oblongis. Theca in pedunculo longiusculo inclinata, ovalis, æqualis, collo sensim attenuato, operculo plano.

Hab. Peruvia prope Lima, Lomas de Amancaes, *Mathews.*

Caulis 1–2 lineas altus. Folia comalia ¾ lineam longa, omnia flavescentia mollia. Pedunculus 5-linearis. Theca rubra cum collo suo lineam longa.

7. E. CLAVELLATUS (*Mitt.*). Humilis. Folia comalia erecto-patentia, incurva, immarginata, integerrima, concava, marginibus superioribus incurvis conniventibus, nervo sub apice evanido, cellulis parvis areolata. Theca in pedunculo brevi ultra apices foliorum perichætialium parum producto, clavata, sporangio globoso-ovali, collo sensim contracto, operculo parvo convexo, annulo angustissimo.

Hab. Brasilia, Montevideo, *Gibert,* n. 653, *Herb. Hooker.*

Caulis lineam altus. Folia lineam longa, pallide viridia. Pedunculus lineam parum excedens. Theca cum collo suo 1½-linearis, superne rufa.

E. apophysato Tayl. Novæ Zealandiæ et Australiæ similis, foliis autem in acumen angustum haud productis diversus.

8. E. ANDICOLA (*Mitt.*). Caulis brevis. Folia erecto-patentia, elongate oblonga, apice acuminata, nervo in acumine evanido, marginibus superioribus serratis, cellulis superioribus hexagonis pentagonisque, inferioribus laxioribus. Theca in pedunculo elongato, pyriformis, brevicollis.

Hab. Andes Quitenses, *Jameson.*

Caulis 2-linearis. Folia 1½ lineam longa, flavo-fusca. Pedunculus ½-uncialis. Theca lineam longa, rufa, ore amplo.

Species a reliquis Andinis satis diversa quamvis a planta singula hucusque cognita.

9. E. BONPLANDII (*Brid.* i. 101, Physcomitrium). Caulis brevis. Folia comalia patentia, obovata, acuta, nervo sub apice evanido, marginibus superne serrulatis, cellulis superioribus ovali-hexagonis, inferioribus laxioribus. Theca in pedunculo brevi, globoso-pyriformis, erecta, collo brevi, operculo planiusculo.

Hab. America meridionalis, *Humboldt et Bonpland.*

10. E. ACIDOTUS (*Tayl. in Hook. Lond. Journ.* vii. 279, Gymnostomum). Caulis brevis. Folia in sterilibus erecta appressa lanceolato-subulata, in fertilibus comalia latiora, lanceolata, acuta, nervo crassiusculo sub apice evanido, marginibus integerrimis, cellulis oblongis. Theca in pedunculo elongato horizontalis, obovato-pyriformis, collo attenuato, operculo plano.

Hab. Andes Quitenses, Quito, *Jameson*; in monte Pichincha (11,000 ped.), *Spruce*, n. 444; in monte Paila-urcu prope pagum Penipe (9000 ped.), *Spruce*, n. 445; in monte Mulmul (11,000 ped.), *Spruce*, n. 446.

Caulis 1–2 lineas altus. Folia lineam longa, sicca parum mutata, luteo-viridia, subnitida. Pedunculus $\frac{1}{2}$–1-uncialis. Theca rufa.

Sect. 2. *Euentosthodon.*

11. E. EURYSTOMUS (*Mitt.*). Folia in caule fructifero comalia erecto-patentia, elliptica, ut plurimum acuta, in caulibus longioribus sterilibus minora, concava, laxe turgide imbricata, oblonga obovatave, apice angulo obtuso rotundatave, omnibus integerrimis, cellulis laxis. Theca longicollis, inclinata, urceolato-contracta, operculo plano, peristomii dentibus rubris.

Hab. Andes Quitenses, Titaicun (11,000 ped.), *Spruce*, n. 447. Peruvia prope Lima, *Mathews.*

Caulis altitudine 2–3-linearis. Folia lineam longa, viridia, fuscescentia. Pedunculus 2–3 lineas longus. Theca cum collo suo $1\frac{1}{2}$ lineam longa.

E. Rottleri Indiæ orientalis et *E. urceolato* e promontorio Bonæ Spei similis.

12. E. CHILOENSIS (*Mitt.*). Folia comalia erecto-patentia, oblongo-ovalia, obtusiuscule acuta, nervo lato luteo sub apice evanido, integerrima, cellulis satis parvis pellucidis. Theca in pedunculo elongato rubente, breviter pyriformis, erecta, collo brevissimo, operculo convexo, peristomii dentibus rubris siccis erectis.

Hab. Ins. Chiloe, *Herb. Hooker.*

E. obtusifolio simillimus; foliis autem angustioribus, cellulis minoribus, theca brevicolli evacua sub ore contracta, operculo subhemisphærico diversus.

13. E. MATHEWSII (*Hook. Ic. Pl.* t. 245 B). Folia patentia, spathu-

lato-elliptica, acuminata, sæpe semitorta, nervo sub apice evanido, marginibus superne spinuloso-serrulatis, cellulis superioribus ovali-hexagonis, inferioribus longioribus. Theca in pedunculo brevi, elongate pyriformis, collo sensim angustato, erecta subinclinatave, operculo plano mamillato, peristomii dentibus brevibus rubris.

Hab. Peruvia, prope Lima, *Mathews.*

Caulis 2–3-linearis. Folia 1½ lineam longa, viridia, magis spinoso-dentata quam in icone depicta.

48. FUNARIA, Schreb.

Musci caulibus humilibus semel divisis. Folia oblonga, lata, laxe areolata. Thecæ in pedunculo longo interdum longissimo humido curvato sicco recto, pyriformes, ore magno obliquo, operculis plano-convexis vel apiculatis, calyptris inflatis longirostratis. *Habitatio* ad terram humidam et in locis igni exustis.

Sect. 1. EUFUNARIA. *Theca plicata.*	
Folia comalia integerrima.	
Folia late ovalia, acuta	1. *F. megalostoma.*
Folia ovali-acuminata	2. *F. hygrometrica.*
Folia oblongo-elliptica, acuta	3. *F. calvescens.*
Folia comalia serrata.	
Folia elliptico-spathulata	4. *F. erectiuscula.*
Folia late ovalia	5. *F. Jamesoni.*
Sect. 2. PLAGIODUS. *Theca lævis.*	
Folia integerrima	6. *F. laxissima.*
Folia serrulata.	
Folia lingulata, obtusa	7. *F. obtusata.*
Folia obovato-spathulata, acuminata	8. *F. suberecta.*
Folia oblongo-obovata spathulatave	9. *F. lævis.*

Sect. 1. *Eufunaria.*

1. F. MEGALOSTOMA (*Mitt.*). Folia imbricata, nervo percursa. Theca in pedunculo brevi pendula, pyriformis, decurva, ore magno, operculo convexo, peristomii dentibus rubris, interno deficiente.

Hab. Andes Peruvianæ, Cerro Pasco, *Mathews.*

Caulis 4 lineas altus. Folia 2-linearia. Theca lineam longa. Pedunculus 2-linearis.

Forma foliorum et thecæ *F. hygrometricæ* similis.

2. F. HYGROMETRICA (*Hedw. Sp. Musc.* 172; *Fund.* i. t. 5. f. 21, &c.). Caulis brevis. Folia comalia incurvo-imbricata, concava, nervo brevissime excurrente, perigonialia subserrulata. Theca in pedunculo elongato superne arcuato, obovata, operculo convexo obtuso acutove, peristomii

dentibus rubris valde trabeculatis, interni processibus inferne latis subulatis, tertia parte dentium longitudinis brevioribus.

Hab. Andes Quitenses, Baños (6000 ped.), *Spruce*, n. 456; Ambato (8500–9000 ped.), *Spruce*, n. 457; Quito, *Jameson et Spruce*. Ins. Chiloe, *Lobb*; Nova Granata, Bogota, *Lindig*.

Caulis 1–4-uncialis. Folia lineam longa, luteo-viridia. Pedunculus 6–12 lineas longus, interdum longior. Theca flavo-fusca, ore magno deorsum spectante.

3. F. CALVESCENS (*Schwægr.* t. 65). Folia incurva, nervo percursa, perigonialia serrulata. Theca in pedunculo elongato apice flexo, obovata, inclinata, collo sensim attenuato, operculo magno hemisphærico, peristomii dentibus angustis attenuatis, apicibus connexis, intus valde trabeculatis, interni processibus subulatis tenerrimis pallidis, tertia parte dentium longitudinis brevioribus.

Hab. Andes Quitenses, in monte Guayrapata (9000 ped.), *Spruce*, n. 450; in monte Titaicun (10,000–11,000 ped.), *Spruce*, n. 451; ibidem ad aggeres (10,000 ped.), *Spruce*, n. 452; Ambato (9000 ped.), *Spruce*, n. 453; Agoyan (5500 ped.), *Spruce*, n. 454; in monte Pichincha (10,000 ped.), *Spruce*, n. 455; Quito, *Jameson*; Venezuela, *Funck et Schlim.* n. 363. Andes Novo-Granatenses, in Montaña fluvii Sogamoza (5000 ped.), *Weir*, n. 161; prope Pacho (6000 ped.), *Weir*, n. 266 et 373. Brasilia, *Gardner*, n. 43, *Weir*, n. 75. Ins. Cuba, *Wright*, n. 9; Jamaica, *Wilds.*

Caulis 4 lineas altus. Folia 2-linearia, viridia. Pedunculus uncialis, siccus rectus. Theca curvata, 1½ lineam longa, fusca.

4. F. ERECTIUSCULA (*Mitt.*). Folia patentia, apiculo angusto terminata, nervo infra apicem desinente, marginibus superioribus serrulatis. Theca in pedunculo brevi recto, pyriformis, clavata, erecta, subæqualis, longitudinaliter subplicata, ore parvo, operculo conico convexo.

Hab. Andes Chilenses, Mendoza, *Gillies, Herb. Hooker.*

Caulis 1–2 lineas altus. Pedunculus 3-linearis. Theca lineam longa. Peristomii destructi dentium basis vestigia tantum obvia.

Species peculiaris habitu *Entosthodontibus* similis, thecæ autem plicatione et structura *Funariæ hygrometricæ* affinior.

5. F. JAMESONI (*Tayl. in Hook. Lond. Journ.* vii. 189). Humilis. Folia comalia patentia, acumine angusto brevi, nervo sub apice evanescente, marginibus superioribus serrulatis, cellulis ovali-hexagonis, inferioribus laxioribus. Pedunculus brevis, arcuatus. Theca elongata, longicollis, operculo convexo, peristomii depressi dentibus rubris lanceolatis longitudine irregularibus, interni processibus basi latis brevibus irregularibus.

Hab. Andes Quitenses, *Jameson*; in terra rupium secus Guano (9000 ped.), *Spruce*, n. 449.

Caulis 2-linearis. Folia lineam longa, viridia. Pedunculus 2-linearis, siccitate vix tortus. Theca lineam longa, rufa, sicca corrugata, collo sporangio subtriplo longiore.

Sect. 2. *Plagiodus.*

6. F. LAXISSIMA (*C. Müll. Syn.* ii. 541). *F. Muehlenbergii* simillima. Folia e basi angustiore spathulata, latissime ovata, obtuse acuta vel breviter apiculata, flaccidissima, e cellulis ubique maximis amplissimis laxissimis teneris amœne chlorophyllosis reticulata, nervo tenui longe infra apicem evanido. Theca in pedunculo breviusculo rubente erecta, e collo brevi oblique globoso-pyriformis asymmetrica, exannulata, operculo conico acuto.—*C. Müll. l. c.*

Hab. Brasilia, unde *Persoon* habuit.

Species forsan plures in Brasilia invenientur, inter quas *F. Fontanesii* Schwægr. t. 66 a cl. Bruch et Schimper in 'Bryologia Europæa' e Chili memorata; etiam e Brasilia *Persoon* in *Herb. Bridel.* speciem unam vel duas ab Africana diversas includit.

7. F. OBTUSATA (*Schimp.*; *C. Müll. Syn.* ii. 540). "Humilis. Folia patenti-recurva, planiuscula, superne crenulata, nervo sub apice evanido. Theca in pedunculo 6–9 lineas alto siccitate dextrorsum torto obliqua, parvula, breviter pyriformis, collo sporangio subsphærico longiore arcuato, operculo deplanato-convexo, umbonato, annulo nullo; peristomio *F. serratæ.*"

Hab. Mexico, prope Mirador, *Liebmann.*

8. F. SUBERECTA (*Mitt.*). Folia apiculo angusto terminata, nervo infra apicem evanido, marginibus superioribus dentibus brevibus serrulatis. Theca in pedunculo apice curvato, clavata, horizontalis nutansve, curvata, peristomii dentibus rubris, processibus æquilongis.

Hab. Andes Quitenses, Titaicun (10,000 ped.), *Spruce*, n. 460.

Caulis 2-linearis. Pedunculus 3–4 lineas longus, rufus. Theca 2-linearis, sporangio infra medium descendente, sicca lævis suberecta.

9. F. LÆVIS (*Mitt.*). Folia patula, apice apiculo angusto terminata, superne denticulis brevibus serrulata, nervo sub apice desinente, cellulis laxis. Theca in pedunculo elongato recto, pyriformis, clavata, incurvata, lævis, ore parvo, operculo convexo, peristomii dentibus rubris, processibus subæquilongis striatulis.

Hab. Andes Quitenses, Titaicun (10,000 ped.), *Spruce*, n. 461; Baños ad terram rupium (6500 ped.), *Spruce*, n. 462; Guayrapata (9000 ped.), *Spruce*, n. 463. In Peruvia, ad Casapi, *Mathews.*

Caulis 1–2 lineas altus. Pedunculus 4-linearis. Theca lineam longa.

Species *F. glabræ* similis.

Tribus VIII. SPLACHNEÆ.

49. TAYLORIA, Hook. in Brand. Journ. Sc. Art. ii. 144.

Theca collo inconspicuo haud truncato. Peristomii dentes 16 integri vel divisi. Calyptra parva, submitræformis, uno latere fissa vel plurifida.

Sect. 1. BRACHYMITRIUM. *Pedunculus abbreviatus. Peristomii dentes æquidistantes.*

Folia obovata, superne serrulata .... 1. *T. Jamesoni.*
Folia obovato-spathulata, laciniato-dentata .... 2. *T. laciniata.*

Sect. 2. DISSODON. *Pedunculus elongatus. Peristomii dentes per paria approximati vel geminatim cohærentes.*

Folia integerrima .... 3. *T. scabriseta.*
Folia serrulata.
  Folia obovato-spathulata, obtusissima .... 4. *T. Moritziana.*
  Folia late spathulato-elliptica, acuta .... 5. *T. spathulata.*
  Folia elongate elliptico-lanceolata .... 6. *T. magellanica.*

Sect. 1. *Brachymitrium,* Tayl. in Hook. Lond. Journ. v. 44.

1. T. JAMESONI (*Tayl. in Hook. Lond. Journ.* v. 44, *et Wils. ibidem,* 448, t. 15. f. A, Brachymitrium). Cæspitosa; caulis elongatus, radiculoso-tomentosus. Folia patentia, obovata, apiculo parvo recurvo terminata, nervo percursa, marginibus superne serrulatis inferne recurvis, basi longe decurrentibus, cellulis superioribus ovali-hexagonis, inferioribus majoribus, ubique ad margines seriebus 8–10 majoribus pellucidis limbum pallidum formantibus. Theca in pedunculo brevi, cylindracea, elongata, operculo acuminato, peristomii dentibus 16 rufis, basi anguste connexis; calyptra parva, operculum parum excedens, scabra.

Tayloria limbata, *Spruce in Journ. Linn. Soc.* v. 47.

Hab. Andes Quitenses, Pichincha, *Jameson*; ibidem (9000 ped.), *Spruce,* n. 469; Pangor (9000–10,000 ped.), *Spruce,* n. 468.

Caulis 1–3 uncias altus. Folia 2½–3 lineas longa, lineam lata, inter se remotiuscula, viridia, sicca appressa torta. Pedunculus 3-linearis. Theca fere 2 lineas longa.

2. T. LACINIATA (*Spruce in Journ. Linn. Soc.* v. 48). Laxissime pulvinate cæspitosa; caulis gracilis, subsimplex, basi radiculis validis affixus. Folia remota, patula, obovata spathulata, longe anguste decurrentia, circa apicem obtusum dentibus basi latis setaceo-acuminatis spiniformibus lobata, inferne integerrima, nervo infra apicem evanido, cellulis oblongis pellucidis limitibus angustis; perichætialia circiter quatuor in verticillum congesta, patula, oblonga, capsulam superantia, nervo crassiore in dentem medium excurrente, dentibusque lateralibus multo longioribus

fimbriata. Theca in pedunculo brevissimo tenui pallide rubro, perfecte ovata, flavida, ore aurantiaca, leptoderma, minute papulosa, operculo conico acuminato, peristomii dentibus 16 æquidistantibus elongatis, anguste subulato-attenuatis, obscure articulatis, basi anguste connexis, humidis in conum apice subtortum collectis, siccis incurvis apicibus erectis laxe contortis; calyptra vix infra operculi basin descendens, conica, acuminata, basi incurva, lobata, medio papulis paucis grossis scabra. Flos masculus minutus, gemmaceus, in axillis foliorum inferiorum vel in ramo gracili elongato ex inferiore parte caulis intra radices egrediente.

Hab. Andes Quitenses, in sylva Llalla ad arborum ramulos, inter *Plagiochilas* (9000 ped.), *Spruce*, n. 467.

Caulis uncialis, ruber, gracilis sed firma. Folia cum dentibus æquilongis 2-linearia, siccitate parum contracta, luteo-viridia. Theca lineam longa. Pedunculus ⅓-linearis.

Species ob folia fimbriata et thecas immersas singularis, perbella.

Sect. 2. *Dissodon*, Grev. et Arn. in Ann. Soc. Linn. Par. 229.

3. T. SCABRISETA (*Hook. Musc. Exot.* t. 32, Splachnum). Cæspitosa; caulis humilis, crassus, carnosus. Folia remota, erecto-patentia, late obovato-spathulata vel ligulata, versus apicem concava, nervo infra apicem evanido, cellulis superioribus oblongis, nonnullis rectangulis, inferioribus oblongis rectangulis pellucidis; perichætialia duo conformia. Theca in pedunculo crasso elongato papuloso rugoso, cylindracea, demum collo contracto subpyriformis, operculo obtusissimo, peristomii dentibus per paria cohærentibus; calyptra crassiuscula, basi inflexa.

Hab. Andes Bogotenses (2500 metr.), *Lindig*. Andes Quitenses, in monte Titaicun (12,000–13,000 ped.), in stercore, *Spruce*, n. 466.

Caulis 3–6 lineas altus. Folia inferiora fusco-fulva, superiora obscure fulvo-viridia. Pedunculus 3–9 lineas longus, ruber. Theca lineam longa.

4. T. MORITZIANA (*C. Müll. in Linnæa*, xix. 201; *Syn.* i. 134). Caulis gracilis, inferne radiculosus. Folia inter se remota, patentia, apiculo angusto terminata, nervo sub apice evanido, marginibus superne dentibus angustis elongatis ciliatis, cellulis inferioribus oblongis, superioribus ovali-hexagonis, marginalibus pellucidis flavidis. Theca in pedunculo elongato gracili, oblonga, operculo conico acuminato, peristomii dentibus 16 per paria adhærentibus rubris; calyptra inferne setis paucis pilosa. Flos masculus capituliformis.

Hab. Andes Bogotenses (2500–2700 metr.), *Lindig*; in Bolivia, *Bridges*. Andes Quitenses, in sylva Canelos, ad arbores putridos (3000 ped.), *Spruce*, n. 465; ad fluv. Napo, *Osculati*.

Caulis unciam altus. Folia 1½ lineam longa, lineam lata, pellucida. Pedunculus 4–5-linearis.

5. T. SPATHULATA (*Wils. in Hook. Lond. Journ.* v. 448, t. 15. f. B).

Caulis inferne radiculosus. Folia dissita, patentia, apiculo parvo terminata, nervo crassiusculo percursa, marginibus superne spinuloso-dentatis, cellulis superioribus ovali-rotundis hexagonisque, inferioribus longioribus parum majoribus pallidioribus lutescentibus. Theca in pedunculo breviusculo, cylindracea, operculo conico acuminato, peristomii dentibus 16, per paria approximatis; calyptra setis inspersa.

Hab. America australis, *Lobb*, n. 105, *Herb. Hooker.*

Caulis ½-uncialis. Folia 1¼ lineam longa, ½ lineam lata, viridia, difficile aqua emollienda. Pedunculus 2-linearis. Theca lineam longa.

T. Moritzianæ similis, foliis autem acutis, pedunculo crassiore et calyptra ex icone pilosa, diversa.

6. T. **MAGELLANICA** (*Schwægr.* t. 14). Caulis elongatus, inferne tomentosus. Folia caulina patentia, obtusiuscule acuta, tenera, nervo sub apice desinente, margine superne serrulato, cellulis elongate oblongis hyalinis anguste limitatis; comalia longiora, lanceolato-subulata. Theca in pedunculo elongato, elliptico-cylindracea, operculo conico, peristomii dentibus per paria adglutinatis brevibus luteis. Flos masculus foliis elongatis subulatis.

Hab. Fuegia, Hermite Island, *J. D. Hooker*; in fretu Magellan, *Commerson.*

Caulis 1–2-uncialis. Folia 2-linearia, superiora viridia, inferiora fuscescentia. Pedunculus ¾–1-uncialis, crassiusculus. Theca 1½ lineam longa, inferne pallida, superne rufa.

Tribus IX. BARTRAMIEÆ.

50. BARTRAMIA, Hedw.

* *Caules ramis pluribus e basi florum egredientibus verticillatim dispositis. Folia nervo angusto percursa,*

Sect. 1. **PHILONOTIS.** *Folia brevia, sæpius pellucide areolata, a basi patentia v. appressa imbricataque.*

Subsect. 1. **BARTRAMIDULA.** *Theca gymnostoma.*

Flores synoici.	
Folia patentia. Theca pendula	1. *B. patula.*
Folia erecto-patentia. Theca erecta	2. *B. Lindigii.*
Flores monoici.	
Folia sublanceolato-subulata	3. *B. cycnea.*
Folia ovato-lanceolata	4. *B. erecta.*

Subsect. 2. **EUPHILONOTIS.** *Theca plicata, peristomio plus minus perfecto.*

Flores monoici.	
Folia lanceolata, nervo haud excurrente percursa	5. *B. fontanoides.*

Folia lanceolata, nervo cuspidata .... 6. *B. curvata.*
Flores dioici.
Folia in ramis seriatim disposita .... 7. *B. angulata.*
Folia undique inserta.
Folia lanceolata, nervo percursa .... 8. *B. tenella.*
Folia lato-lanceolata, brevia, nervo crasso subcontinuo.
9. *B. rufiflora.*
Folia anguste lanceolata, nervo subcontinuo .. 10. *B. Berteroana.*
Folia anguste lanceolata, sublonge acuminata, nervo crasso excurrente.
11. *B. Pabstiana.*
Folia lanceolata, sensim acuta, nervo crassiusculo excurrente.
12. *B. Osculatiana.*
Folia ovato-lanceolata, sensim subulato-angustata.
13. *B. appressa.*
Folia ovato-lanceolata, acuta, nervo haud excurrente.
14. *B. elegantula.*
Folia lanceolata acuta, nervo percurrente .... 15. *B. minuta.*
Folia late ovata acuminata, nervo excurrente .. 16. *B. striatula.*
Folia ovato-lanceolata, nervo crasso cuspidata 17. *B. versifolia.*
Folia a basi truncata sensim angustata, nervo percurrente.
18. *B. gracilenta.*
Folia anguste lanceolato-subulata, nervo percurrente.
19. *B. sphærocarpa.*
Folia ovata acuta, nervo percurrente .... 20. *B. andina.*
Folia anguste lanceolata, sensim longe angustata, nervo longe excurrente' .... 21. *B. uncinata.*
Folia lanceolata, sensim longiuscule angustata, nervo percurrente.
22. *B. Gardneri.*
Folia late ovata acuminata, basi subplicata, nervo crasso excurrente.
23. *B. fontanella.*
Folia ovata, sensim angustata, acuta, sublimbata, nervo excurrente.
24. *B. vagans.*
Folia e basi ovata vel lato-lanceolata longe et acute cuspidata.
25. *B. erythrocaulis.*

Sect. 2. BREUTELIA. *Folia sæpius a basi erecta patentia v. squarrosa, elongata, cellulis elongatis areolata, tenera sed firma.*

Theca globosa.
Theca lævis .... 26. *B. subarcuata.*
Theca plicata.
Folia patentia nec a basi erectiore reflexa.
Folia basi truncata, late ovato-lanceolata, sensim subulato-acuminata, nervo excurrente .... 27. *B. incana.*
Folia angustissime lanceolata, longe anguste attenuata.
28. *B. microdonta.*

Folia a basi lata sublanceolata ovato-lanceolatave, subulato-angustata, nervo excurrente .... 29. *B. tomentosa.*

Folia e basi lato-ovata in subulam lanceolatam longissime cuspidatam producta .... 30. *B. scoparia.*

Folia a basi latiore truncata sensim subulato-angustata, nervo excurrente .... 31. *B. hispida.*

Folia basi subtruncata, ovato-lanceolata, sensim subulato-angustata, nervo excurrente .... 32. *B. jamaicensis.*

Folia ovato-lanceolata, nervo percursa et cuspidata. 33. *B. pinnata.*

Folia ovato-lanceolata, nervo excurrente mucronata. 34. *B. squarrosa.*

Folia e basi contracta, ovato-lanceolata .... 35. *B. Trianæ.*

(Species tres præcedentes statu sterili tantum notæ.)

Folia a basi erecta reflexa.

Folia a basi brevi superne dilatata sensim angustata, nervo excurrente .... 36. *B. rupestris.*

Folia a basi caviuscula superne dilatata sensim angustata, apice latiuscula .... 37. *B. carinata.*

Folia a basi brevi subquadrata sensim angustata, integerrima. 38. *B. aciphylla.*

Folia a basi subquadrata superne dilatata, inde ad apicem latiusculum sensim angustata .... 39. *B. plicata.*

Theca oblonga.

Folia anguste ovato-lanceolata, subulata, integerrima. 40. *B. integrifolia.*

Folia a basi erecta superne dilatata angustata, sublanceolata, serrulata. 41. *B. dumosa.*

** *Caulis dichotomus fastigiatim ramosus. Folia sæpius nervo incrassato dilatatove percursa.*

Sect. 3. CONOSTOMUM. *Folia a basi sensim angustata in seriebus quinis appressa.*

Folia in pilum nitidum producta .... 42. *B. australis.*

Folia apice obtusa .... 43. *B. magellanica.*

Sect. 4. EUBARTRAMIA. *Folia a basi erectiore angustata, nervo sæpius dilatato percursa, rigidiuscula, setacea, cellulis superioribus obscuris v. opacis areolata.*

Subsect. 1. LEIOMELA. *Theca lævis breviter pedunculata.*

Theca gymnostoma.

Folia a basi brevi erectiore sensim subulata, elongata angusta. Theca erecta .... 44. *B. subsessilis.*

Folia a basi oblonga sensim subulata, elongata. Theca nutans.
45. *B. setifolia.*

Folia a basi caviuscula sensim subulata. Theca inclinata.
46. *B. aristata.*

Theca peristomata.

Folia a basi oblonga erectiore superne latiore longe anguste subulata.
47. *B. Jamesoni.*

Folia lanceolato-subulata, longe setacea .... 48. *B. lutescens.*

Subsect. 2. GLYPHOCARPUS. *Theca æqualis, post operculum delapsum plicata.*

Folia a basi parva erecta sensim subulata. Theca longe pedunculata.
49. *B. strumosa.*

Folia a basi oblonga rectangulata subulato-lanceolata. Theca breviter pedunculata .... 50. *B. humilis.*

Subsect. 3. PLAGIOMELA. *Theca inæqualis, plicata.*

Theca in pedunculo longo exserta.

Flores dioici .... 51. *B. ambigua.*

Flores synoici.

Folia a basi oblongo-quadrata superne dilatata subito in subulam elongatam contracta .... 52. *B. flavicans.*

Folia a basi vaginante nec superne dilatata rotundata.
53. *B. subpatens.*

Folia a basi erecta subito in folium lineare elongatum sensim angustatum contracta......................... 54. *B. patens.*

Folia a basi semivaginante lineari-subulata .. 55. *B. Schimperi.*

Folia a basi angusta longa subito in subulam producta.
56. *B. costaricensis.*

Folia a basi subquadrata latiore sensim subulata. 57. *B. pomiformis.*

Theca in pedunculo foliis parum longiore exserta.

Flores synoici.

Folia sicca erecta appressa .... 58. *B. potosica.*

Folia et sicca et humida patentia............ 59. *B. microstoma.*

Flores monoici .... 60. *B. Halleriana.*

Flores dioici?

Folia a basi elongata cellulis homomorphis areolata longe subulata, patentia .... 61. *B. Mathewsii.*

Folia a basi oblonga cellulis elongatis areolata anguste elongata subulata, patentia, incurva .... 62. *B. longifolia.*

Folia basi cellulis marginalibus majoribus diaphanis teneris limbum formantibus, inde angustissime subulata, patentia.
63. *B. angustifolia.*

Folia superiora falcato-secunda .... 64. *B. Mülleri.*

Sect. 1. *Philonotis*, Brid. ii. 15.

Musci humiles vel plus minus elati, caulibus firmis. Folia pallide viridia. Thecæ longe pedunculatæ, globosæ, sæpius plicatæ, operculis brevissimis, peristomio normali imperfecto vel nullo.

Subsect. 1. *Bartramidula*, Bruch et Schimp. Bryol. Europ.

1. B. PATULA (*Mitt.*). Caulis gracilis. Folia patentia, lanceolata, acuminata, nervo percursa, margine serrulata, cellulis oblongis pellucidis fere lævibus; perichætialia majora, erecta, longius acuminata, pellucidiora. Theca in pedunculo flexuoso arcuato pendula, globoso-pyriformis, leptodermis, ore parvo.

Hab. Guatemala, Volcan de Agua (7000–12,000 ped.), inter cæspites *Tortulæ æneæ, Godman et Salvin.*

Caulis ½ unciam altus. Folia ¾ lineam longa, straminea. Pedunculus 4-linearis. Theca fuscescens, corrugata.

B. Wilsoni Europæ simillima, nec nisi foliis erectioribus et theca intensius infuscata parum diversa.

2. B. LINDIGII (*Hampe in Linnæa,* xxxi. 522). Parvula. Folia erecto-patentia, lanceolata, acuta, nervo percursa, dorso margineque supra medium serrulata, cellulis oblongis; perichætialia ovato-lanceolata, acuminata. Theca in pedunculo brevi erecta, globoso-turbinata, æqualis, sicca corrugata plicata, operculo parvo planiusculo.

Hab. Andes Bogotenses, Bogota, La Penna in terra humida (2700 metr.), *Lindig,* n. 2144.

Caulis 2–3 lineas altus, ramos æquilongos 3–4 infra perichætium emitens. Folia viridia, seniora fulva, sicca appressa. Pedunculus 3-linearis. Theca leptoderma, satis magna.

B. Wilsoni Europæ similis.

3. B. CYCNEA (*Mont. in Ann. Sc. Nat.* ser. 3. iv. 102). Caulis humilis, gracilis, inferne radiculosus. Folia laxiuscula, patentia, basi truncata, nervo dorso serrulato excurrente, marginibus serrulatis, cellulis elongatis pellucidis papilliferis, ad angulos paucis subquadratis; perichætialia ovali-subulata, tenera. Theca in pedunculo curvato flexuoso, globosa, plicata, æqualis, operculo convexo. Folia perigonialia a basi rotundata sensim subulata, divaricata.—*C. Gay, Hist. Chil. Bot.* t. 2. f. 2.

Hab. Chili (*Herb. Montagne*), Cordillera de Raneo, prope Urquilue, *Lechler,* n. 802, ex parte.

Caulis ½-uncialis. Folia lineam longa, pallida, viridia, fulvescentia. Pedunculus 3-linearis.

4. B. ERECTA (*Mitt.*). Humilis. Folia erecto-patentia, sensim acuta, marginibus inferne reflexis apicem versus serratis, nervo percurrente dorso serrulato, cellulis oblongis pellucidis; perichætialia a basi late ovata subu-

lata, angusta, integerrima. Theca in pedunculo rufo, globoso-ovalis, erecta, plicata, gymnostoma, operculo parvo breviter conico acuminato obtuso. Flos masculus ad perichætii latera, gemmæformis.

Hab. Andes Quitenses, in monte Guayrapata (9000–10,000 ped.), *Spruce*, n. 439; in monte Titaicun in carbonariis (11,000 ped.), *Spruce*, n. 440; in monte Pichincha (11,000 ped.), *Spruce*, n. 441.

Caulis 2–3-linearis, ramulis lineam longis infra perichætium innovans. Pedunculus 4–5-linearis. Theca lineam longa.

B. cycneæ similis, sed marginibus foliorum reflexis, cellulis latioribus, omnibus conformibus, foliis ramorum minus angustatis et pedunculo erecto diversa.

Subsect. 2. *Euphilonotis.*

5. B. **FONTANOIDES** (*Gill. et Grev. in Cheek's Journ.* iii. t. 1). Caulis humilis, inferne tomentosus. Folia erecto-patentia, marginibus recurvis superne brevissime serrulatis, cellulis oblongis pellucidis lævibus; perichætialia late ovata, acuminata. Theca in pedunculo elongato inclinata, globosa, inæqualis, operculo convexo, peristomio normali. Flos masculus foliis a basi lata longe subulato-acuminatis.

Bartramia glauca, *Gillies in Herb. Hooker.*

Hab. Andes Chilenses, Mendoza, *Gillies.*

Caulis 2–4 lineas longa, gracilis. Folia ½ lineam longa, glauco-viridia. Pedunculus fere ½-uncialis.

Species parva, *B. tenellæ* formis minoribus simillima.

6. B. **CURVATA** (*Hampe in Linnæa,* xxxi. 523). Gemma antherigera ad basin fœminea, gracilis, minor, fasciculato-ramosa, basi parce fusco-tomentosa, superne lutescenti-viridis; rami fasciculati 3–6, breves, gracillimi, subæquales, extrorsum curvati. Folia undique laxe imbricata, erecta, sursum fere usque ad basin remote denticulata, nervo rufescente percursa, cellulis basilaribus oblongo-quadratis et parallelogrammicis pellucidis, nodulis rufescentibus anastomosantibus, in superiore parte folii densioribus et angustioribus, in acumine cum nervo confluente conflatis, lutescentia. Seta gracilis, subradicalis, ramos 3–4-plo superans, substricta, parum flexuosa. Theca magna, adscendens, horizontalis, e basi gibbosa oblique rotunda, operculo pallido umbonato-plano obtuse apiculato mediocri, dentibus peristomii sanguineis, exterioribus solidis late lanceolatis acutis articulis nigricantibus notatis, interioribus late carinatis indivisis; calyptra cucullata, glabra, straminea, apice fusca.

Hab. Nova Granata, Tequendama in terra (2500 metr.), *Lindig*, n. 2147.

B. Pabstianæ ex habitu similis, sed androgyna (monoica); ob thecæ amplitudinem ab omnibus *Philonotidibus* plumosis notabilis; statura *B. rigidam* refert.—*Hampe, l. c.*

7. B. **ANGULATA** (*Tayl. in Hook. Lond. Journ.* v. 55). Caulis elongatus,

gracilis. Folia a basi truncata sensim angustata, subhastata, erecto-patentia, appressa, in ramis junioribus plus minus perfecte seriata, nervo dorso minute denticulato excurrente carinata, marginibus inferne recurvis serrulatis, cellulis basi subquadratis, superioribus suboblongis, omnibus pellucidis breviter papillatis; perichætialia erecta, a basi concava ovata, subulata, tenera. Theca in pedunculo elongato, globosa, inclinata, operculo depresse conico, peristomio normali.. Flos masculus gemmæformis, clausus, foliis basi orbiculatis, subula angusta tenera, nervo angusto percurrente vel omnino deficiente.

Hab. Andes Quitenses, *Jameson*; Baños in scaturiginosis (7000 ped.), *Spruce*, n. 416; Antombos (5000 ped.), *Spruce*, n. 417; ad cataractam Agoyan (5000 ped.), *Spruce*, n. 418; Tunguragua (7000 ped.), *Spruce*, n. 419.

Caulis 1–3-uncialis. Folia vix ½ lineam longa, pallide viridia, lutescentia. Pedunculus uncialis, ruber. Theca lineam longa.

8. B. TENELLA (*C. Müll. Syn.* i. 481). Humilis, cæspitosa. Folia erecto-patentia, marginibus recurvis serrulatis, cellulis superioribus elongate oblongis, inferioribus ovalibus papilliferis; perichætialia deltoideo-ovata, tenera, longe subulata, flexuosa. Theca in pedunculo elongato inclinata, subhorizontalis, ovali-globosa, inæqualis, operculo conico acuto, peristomio normali. Flores masculi gemmæformes, clausi, foliis acutis.

Hab. Ins. Jamaica, *Wilds*, *Wilson*, *Purdie*; Sti. Christopheri, *Walwyn*; Cuba, *Wright*, n. 56; Trinidad, *Purdie*, *Crüger*; Hispaniola et Porto Rico, *Bertero*. Andes Bogotenses, in montibus prope Bucamaranga et Bogota (8500 ped.), *Weir*, n. 146; in descensu a planitie Bogotense ad Fusagasuga in declivibus saxosis udis (7000 ped.), *Weir*, n. 239; prope cataractam Tequendama (7000 ped.), *Weir*, n. 318. Fl. Amazon Tauaú prope Pará, *Spruce*, n. 426; ad fl. Aripecurú, *Spruce*, n. 438; fl. Negro ad muros castelli S. Gabriel, *Spruce*, n. 437. Andes Quitenses, Rio Verde et in sylva Canelos (4500 ped.), *Spruce*, n. 420; Llalla (9000 ped.), *Spruce*, n. 421; Guayrapata (9000 ped.), *Spruce*, n. 422; Tunguragua (8000 ped.), *Spruce*, n. 423; Baños (6000 ped.), *Spruce*, n. 424; Tunguragua (7000 ped.), *Spruce*, n. 425; Pichincha ad rivulos (11,000 ped.), *Spruce*, n. 426, 427; Antombos (5000 ped.), *Spruce*, n. 428. Andes Peruvianæ ad cataractam fl. Huallaga (1300 ped.), *Spruce*, n. 431, 432; ad saxa fl. Huallaga inundatis, *Spruce*, n. 433; Tarapoto in lignis putridis (1800 ped.), *Spruce*, n. 434 (*B. lignicola* Spr. MS.); Tarapoto in viis cavis (1500 ped.), *Spruce*, n. 435 (*B. umbratilis* Spr. MS.); Brasilia ad viam in collibus inter Antonina et Corritiba (1800 ped.), *Weir*, n. 49.

Species, ni discrimina vera prætervisa, valde variabilis.

9. B. RUFIFLORA (*Hornsch. in Mart. Fl. Bras. Musc.* 40; *C. Müll.*

Syn. i. 482). Dense cæspitosa; caulis fertilis elatiusculus filiformis, inferne radiculoso-tomentosus, apice ramis fastigiatis pluribus brevibus subsecundis et interdum iterum fertilibus. Folia caulina erecto-appressa, subsecunda, madefacta paulisper patentia, acutiuscula, margine duplicato-serrulata, dorso papillis remotis obscuris sublævia, carinato-concava, vix curvula, undique cellulis ampliusculis laxis hexagono-quadratis pellucidis areolata; perichætialia e basi late ovata, tenerrime reticulata, plicata, pellucida, fusco-colorata, in subulam longam subtortam sensim producta, intima lævia vix denticulata. Theca in pedunculo elongato flexuoso rigido inclinata, globosa, brevis, ampliuscula, rugulosa, operculo hemisphærico mamillato; peristomium duplex, normale, majusculum.—*C. Müll. l. c.*

Hab. Brasilia, Serra d'Estrella supra saxa rivulorum et in solo glareoso, *Beyrich*; Serra dos Orgaos, *Gardner*, n. 46.

Planta mascula gracilior, inferne foliosa, apice floribus solitariis vel binis et ternis plus minus conglomeratis crassis fuscis ternatis et ex iis ramis tenuissimis flexuosis brevibus innovans.—*C. Müll. l. c.*

10. B. **BERTEROANA** (*C. Müll. Syn.* i. 485). Dense cæspitosa, humilis, inferne tomentosa, ad apicem fertilem ramis 5–7 caule pusillo longioribus gracilibus curvulis ad basin tomentosis pallide viridibus, v. luteis. Folia caulina tenerrima, in caule rubente laxe disposita, canaliculata, curvula, margine a basi usque ad apicem fere tenuiter revoluta, duplicato-serrulata, dorso papillis (pro cellulis laxis pellucidis rectangularibus teneris minutis) crassis scabra, nervo subtenui; perichætialia similia, basi latiora, longe acuminata, intima læviora teneriora, omnia excurrentinervia. Theca in pedunculo elongato, globosa, macrostoma, senectute truncata, parva, recta, regularis, vix sulcata; peristomium normale, inflexum, internum striatulum.—*C. Müll. l. c.*

Hab. Ins. Trinidad, *Crüger*; et var. *flaccida*, ramis longissimis gracillimis flexuosis luteis, foliis patentibus, in ins. Guadelupe, *Bertero*.

Planta mascula elatior, flore crassiuscule gemmaceo.—*C. Müll. l. c.*

11. B. **PABSTIANA** (*C. Müll. Syn.* i. 486). Laxe cæspitosa, inferne radiculosa, humilis, erecta, gracilis; caulis fertilis brevissimus, ramis circa 10 gracilibus brevibus subuncinatis plumoso-foliosis fastigiatis. Folia caulina laxe imbricata, homomalla, nervo viridi excurrente, curvula, carinato-concava, margine duplicato-serrulata, dorso papillis obscuris remotis sublævia, undique e cellulis minutis subquadratis laxis pellucidis areolata; perichætialia latiora, tenuiora, longe et flexuose cuspidata, excurrentinervia, intima lævia denticulata. Theca in pedunculo radicali elongato crasso rigido horizontalis, subito subglobosa, brevis, ampla, operculo hemisphærico mamillato; peristomium normale, robustum.—*C. Müll. l. c.*

Hab. Brasilia, ins. Stæ. Catharinæ, ad fl. Itajahi, inter fructiceta, *Pabst*; et var. *plumosa*, amœne viridis, laxius subgregarie cæspitosa, elatior, gracilescens, valde plumoso-foliosa, ibidem in viis cavis locorum umbrosorum montosorum prope Destero, *Pabst*.

12. B. Osculatiana (*De Notaris*). Humilis. Folia patentia, carinata, marginibus erectis serrulatis, cellulis superioribus oblongis, inferioribus duplo latioribus lævibus; perichætialia ovata, subulato-acuminata, tenera. Theca in pedunculo elongato, globosa, inclinata.

Hab. Andes Quitenses, ad fl. Napo, *Osculati* (*Herb. De Notaris*).

Caulis 3-linearis. Folia ⅔-linearia. Pedunculus unciam longus.

13. B. appressa (*Hook. fil. et Wils. Fl. Nov. Zel*. ii. 89, t. 86. f. 5). Dioica; caulis gracilis, ruber, superne sæpe ramulis arbusculosis subpinnatim dispositis. Folia patentia, nervo excurrente denticulato, margine recurvo serrulato, cellulis oblongis inferne latioribus, omnibus papillis subsetuliformibus intus extusque prominentibus griseis obtectis; perichætialia pellucida, longissime subulata. Theca in pedunculo elongato, globosa, inclinata, inæqualis, operculo conico, peristomio normali.

Bartramia remotifolia, *Hook. fil. et Wils. Fl. Tasm*. ii. 193, t. 174. f. 3.

B. exigua, *Sulliv. U. S. Expl. Exped.*

Hypnum scabrifolium, *Hook. fil. et Wils. in Hook. Lond. Journ*. iii. 552.

Hab. Andes Quitenses, *Jameson* (sterilis).

Caulis ½–2-uncialis, gracilis. Folia lineam longa, glauco-viridia, fuscescentia. Pedunculus ½–¾-uncialis.

14. B. elegantula (*Tayl. in Hook. Lond. Journ*. vi. 335). Humilis, gracilis. Folia erecto-patentia, appressa, nervo dorso serrulato, marginibus superne serrulatis, cellulis omnibus quadratis vel oblongis intermixtis sublævibus pellucidis fragilibus; perichætialia erecta, lanceolato-subulata. Theca in pedunculo elongato, ovali-globosa, horizontalis, operculo depresse conico, peristomio normali. Flos masculus foliis basi orbiculatis subulatis, nervo obsoleto.

Hab. Andes Quitenses, in monte Pichincha, *Jameson*. Andes Bogotenses, in sylvis Manzanos (2600 metr.), in humidis locis, *Lindig*.

Caulis 3–6-uncialis. Folia ⅓ lineæ paululo superantia, viridia, siccitate appressa, incurva, imbricata. Pedunculus ¾-uncialis.

15. B. minuta (*Tayl. in Hook. Lond. Journ*. vi. 335). Humilis. Folia erecto-patentia, marginibus anguste recurvis superne breviter serrulatis, cellulis inferioribus oblongis, superioribus elongatis, omnibus subobscuris; perichætialia erecta, breviter subulata, tenera. Theca in pedunculo elongato, globosa, inclinata, operculo convexo-conico, peristomio normali.

Hab. Andes Quitenses, *Jameson*. Andes Bogotenses, Bogota, Cune (1100 metr.), *Lindig*.

16. B. striatula (*Mitt*.). Cæspitosa; caulis elongatus. Folia erecto-

patentia, in ramulis subsecunda, canaliculata, carinata, marginibus fere ad apicem usque recurvis serrulatis, cellulis oblongis, inferioribus latioribus, omnibus papilliferis; perichætialia ovata, breviter subulata. Theca in pedunculo elongato, globosa, inclinata, inæqualis, operculo convexo-conico; peristomium normale, internum striatulum. Flos masculus apertus, foliis basi latissime vaginantibus, apicibus acuminatis patentibus acutis serrulatis.

Hab. Andes Novo-Granatenses, Bogota, Boqueron in declivibus rupestribus humidis (8600 ped.), *Weir,* n. 324; in rupibus humidis prope cataractam Tequendama (7500 ped.), *Weir,* n. 343.

Caulis 2–3-uncialis. Folia $\frac{3}{5}$ lineæ longa, sicca appressa, imbricata, in ramorum apicibus secunda, curvata. Pedunculus $1\frac{1}{4}$-uncialis. Theca $1\frac{1}{2}$ lineam longa.

B. fontanellæ simillima, foliis autem inferne minus dilatatis, marginibus reflexis, cellulis ad angulos haud quadratis diversa.

17. B. VERSIFOLIA (*Hampe in Ann. Sc. Nat.* ser. 5. iii. 371). Dense cæspitosa, humilis, rufescens; caulis basi fusco-fibrillosus, tenuis, laxe foliatus, superne fasciculato-radiatus; ramis brevibus, gracilibus, subcurvatis. Folia caulina inferiora margine parce revoluto superne denticulata, cellulis basilaribus subquadratis hyalinis, versus apicem rectangulis longioribus, omnibus lævioribus, flavescenti-pellucidis; folia ramorum minora, sicca appressa, humida erecto-patentia, minus cuspidata, cellulis omnibus conformibus quadratis, interstitiis noduloso-granulatis, lutescenti-diaphana, apice obscuriora; perichætialia longe cuspidata, hyalina, lævia. Seta canaliculata, erecta, fere uncialis, apice parum incrassata, flavescens. Theca parce gibbosa, subrotunda, parvula, adscendenti-horizontalis; operculo umbonato-apiculato; peristomium duplex, exterius dentibus arcte trabeculatis, lanceolatis, ferrugineis, apice incurvis, interius membrana plicata crocea, cruribus carinatis, ciliis subulatis interpositis; calyptra flavescens, glabra.

Hab. Andes Bogotenses, Boqueron (2700 metr.) in humidis, *Lindig.*

B. tenellæ affinis, sed structura foliorum diversa.—*Hampe, l. c.*

18. B. GRACILENTA (*Hampe in Ann. Sc. Nat.* ser. 5. iii. 371). Cæspitosa; caulis elongatus. Folia erecto-patentia, angusta, sublanceolata, margine anguste recurva serrulata, cellulis basilaribus quadratis, superioribus oblongis, omnibus papillis denticuliformibus intus prominulis; perichætialia a basi latiore subulata. Theca in pedunculo elongato, globosa, inclinata, operculo planiusculo mamillato; peristomium normale.

Hab. Andes Bogotenses, Cipaquira (2600 metr.), et in monte Del Morro (2200 metr.) forma minor, *Lindig.*

Caulis 2–3 uncias altus, ramulis fasciculatis inferne tomentosus. Folia juniora luteo-viridia, sicca appressa. Pedunculus uncialis. Theca lineam longa.

B. fontanellæ gracilior, foliis angustioribus.

19. B. SPHÆROCARPA (*Swartz, Fl. Ind. Occid.* iii. 1835, Bryum). Dioica, humilis. Folia patentia, marginibus superne angustissime reflexis serrulatis, cellulis superioribus elongatis angustis, basi paucis brevioribus subpellucidis. Theca in pedunculo elongato, globosa, inclinata, "peristomio normali." Flos masculus foliis erectis basi orbiculatis subula lata longiuscula canaliculata terminatis.

Mnium sphæricarpum, *Hedw. Musc. Frond.* iii. 93, t. 38.

Philonotis sphæricarpa, *Brid.* ii. 25, *ex parte.*

Hab. Ins. Jamaica, *Swartz, Herb. Hooker*; Sti. Vincentis, *Parker.*

Caulis 2–3-linearis. Folia vix ½ lineam longa, fulva. Pedunculus ¾-uncialis.

20. B. ANDINA (*Mitt.*). Cæspitosa; caulis procumbens, ramosus, ramis apice curvatis. Folia imbricata, marginibus serrulatis, cellulis oblongo-rhombeis pellucidis, omnibus in pagina superiore grosse papilliferis, ad angulos paucis rotundatis lævibus.

Hab. Andes Quitenses, in monte Pichincha, ad cataractam (11,000 ped.), *Spruce*, 429.

Habitus staturaque *B. fontanæ* Linn. Europæ formis majoribus sed foliorum cellulæ laxiores, papillis grossiusculis ubique armatæ.

21. B. UNCINATA (*Schwægr.* t. 57, B. scabrida). Caulis brevis, cæspitosus. Folia erecto-patentia, carinata, marginibus ubique reflexis serrulatis, cellulis parvis angustis oblongis papillis grossiusculis; perichætialia erecta, a basi ovata sensim longe angustissime subulata. Pedunculus elongatus. Theca globosa, inclinata, "peristomio normali."

Hab. Ins. Guadelupe, in monte sulphurifero, *Richard*; Sti. Vincentis, *Herb. Hooker.*

Caulis ½-uncialis, inferne tomentosus. Folia ⅔-linearia, lutea, rigida.

22. B. GARDNERI (*C. Müll. Syn.* i. 477). Humilis, inferne tomentosa. Folia patentia, in ramulis subsecunda, marginibus fere ad apicem usque reflexis serrulatis, cellulis superioribus elongatis papilliferis, basilaribus latioribus oblongis; perichætialia a basi tenera late ovata, longe subulata. Theca in pedunculo elongato, globosa, horizontalis, inæqualis, operculo depresse conico, apice impresso umbonato, peristomio normali, processibus striatulis.

Hab. Brasilia, in monte Corcovado, ad rupes humidas, *Gardner*, n. 44.

Caulis 3–6-linearis. Folia ⅔ lineæ longa, viridia, sicca appressa. Pedunculus ½–1-uncialis. Theca lineam longa, fusca.

23. B. FONTANELLA (*Hampe in Linnæa*, xxxii. 140). Cæspitosa; caulis elongatus. Folia erecto-patentia, in ramulis imbricata subsecunda, marginibus erectis recurvisve serrulatis haud reflexis, cellulis breviter papilliferis, superioribus angustis elongatis, inferioribus oblongis, ad angulos pluribus subquadratis; perichætialia brevia, late ovata, acuminata, plicata.

Theca in pedunculo elongato, globosa, horizontalis, inæqualis, operculo depresse conico, peristomio normali.

Hab. Andes Novo-Granatenses, Boqueron (prope Bogota) ad rivulos (2700 metr.), *Lindig*; ibidem in declivibus rupestribus (8600 ped.), *Weir*, n. 325; in humidis ad viam ad cataractam Tequendama ducentem (7000 ped.), *Weir*, n. 318.

Caulis uncialis, ramis 4 lineas longis. Folia ½ lineam longa, viridia, sicca appressa, imbricata. Pedunculus uncialis, ruber. Theca lineam longa.

24. B. VAGANS (*Hook. f. et Wils. Crypt. Ant.* t. 154, Bryum). Caulis elongatus, ramosus. Folia patentia, margine cellulis angustatis subcartilagineis limbata, apicem versus serrata, cellulis omnibus conformibus magnis pellucidis, parietibus angustis; perichætialia a basi latiore lanceolata. Theca in pedunculo elongato rubro horizontalis, globoso-ovalis, collo vix distincto, operculo breviter conico. Flos masculus in caulibus gracilioribus laxifoliis; folia perigonialia lata apice obtusiuscula cymbiformi-concava, superne cellulis angustis areolata.

Meesia vagans, *C. Müll. Syn.* i. 467.

Hab. Fuegia, Hermite Island, *J. D. Hooker*; Sandy Point in fretu Magellan, etiam in Chili, *Lechler*, n. 3063 (*Philonotis dimorpha* Schimp. MS.).

Muscus speciosus.

25. B. ERYTHROCAULIS (*C. Müll. Syn.* i. 473). Laxissime cæspitosa, inferne tomentosa; caulis sterilis et masculus erectus flaccidus longiusculus flexuosus, inferne inter folia radiculosus, rufus, rigidus. Folia remote disposita, carinata vel complicata, concava, margine revoluto denticulata, undique e cellulis minutis rectangularibus pellucidis angustis areolata, papillis scaberrima.—*C. Müll. l. c.*

Hab. Mexico, *Deppe et Schiede* (*B. affinis* Hornsch.).

Flos masculus crasse gemmaceus.

Formis flaccidioribus *B. fontanæ* haud dissimilis, amœne viridis, gracilis, primo intuitu *Bryo erythrocauli* ex habitu affinis.—*C. Müll. l. c.*

Sect. 2. *Breutelia*, Schimp.

Musci humiles vel elati, robusti, foliis sæpe subnitidis. Thecæ breviter vel longiuscule pedunculatæ, globosæ vel oblongæ, plicatæ vel rarius læves, operculis brevissimis. Peristomium normale, rarius nullum.

26. B. SUBARCUATA (*Schimp.*; *C. Müll. Syn.* ii. 617). Cæspitosa; caulis elongatus. Folia ovato-lanceolata, subulato-attenuata, inferne erecta, superne patentia, subplicata, nervo excurrente, margine a basi usque ad medium reflexa, superne minute remoteque serrulata, cellulis fere ubique elongatis angustis papilliferis, basilaribus ad margines reflexos paucis hyalinis

majoribus; perichætialia brevia, latiora. Theca in pedunculo brevi curvata, demum pendula, globoso-pyriformis, æqualis, haud plicata, operculo hemisphærico apiculato; peristomium parvum, normale. Flos masculus foliis perigonialibus breviusculis luteis breviter acuminatis.

Hab. Mexico, Pico de Orizaba (11,000 ped.), *Liebmann.* Andes Bogotenses, Bogota, Los Laches (2700 metr.), *Lindig*; Bogota in sylvis et in locis apertis (6000–9000 ped.), *Weir*, inter n. 119.

Caulis 2–4-uncialis, fasciculatim ramosus, inferne tomento obtectus. Folia luteo-viridia. Pedunculus 2–3-linearis. Theca leptoderma, senectute rugosa, ferruginea.

27. B. INCANA (*Tayl. in Hook. Lond. Journ.* vii. 189). Cæspites humiles; caules inferne tomentosi, parce ramosi, rigidi. Folia patentia, rigida, planiuscula, marginibus inferne anguste reflexis, superne serrulatis, cellulis superioribus elongatis angustis, papillis densis denticuliformibus prominulis, inferioribus latioribus in medio folio oblongis fusco-fasciatis, ad angulos pluribus brevioribus subquadratis; perichætialia erecta, oblongo-lanceolata, pallida, apicibus latioribus, nervo excurrente mucronata. Theca in pedunculo breviusculo superne quadrangulari, globoso-ovata, inclinata, subæqualis, operculo depresso acuminato; peristomium dentibus parvis, normale. Flos masculus foliis reflexis divaricatis, apicibus obtusis.

Hab. Andes Quitenses, Pichincha, *Jameson*, et (10,000 ped.) in rivuli ripis scopulosis, *Spruce*, n. 414.

Caulis ¾–1½-uncialis, rigidus. Folia luteo-viridia, fuscescentia, sicca appressa. Pedunculus 3-linearis. Theca magna.

A most distinct species, having more external resemblance to some *Eubartramiæ* than to any others of this section, to which in structure it certainly belongs.

28. B. MICRODONTA (*Mitt.*). Caulis humilis, gracilis. Folia patula, stricta, subplicata, margine recurva, inferne reflexa, serrulata, cellulis angustis elongatis utraque pagina papilliferis, nervo percurrente; perichætialia a basi brevi latiore subulata, angustiora. Theca in pedunculo elongato, subglobosa, horizontalis, inæqualis, lenissime plicata; peristomii dentibus parvis subulatis, interni membrana dentibus adhærente, processibus . . . .

Hab. Brasilia, prov. Fazenda di Cachamba (2000 ped.) ad rupes humidas, *Weir*.

Caulis subuncialis, inferne tomentosus. Folia 1½ lineam longa, pallide luteo-viridia, subnitida, stricta. Pedunculus uncialis. Theca fere lævis. Peristomium internum ut videtur imperfectum.

B. quadratæ et *B. capensi* Africæ australis similis.

29. B. TOMENTOSA (*Sw. Fl. Ind. Occ.* iii. 1837, Bryum; *Hook. Musc. Exot.* t. 19). Caulis fertilis ramis radiatis interruptim ramosus, sterilis ramis laxe subpinnatus, inferne valde tomentosus. Folia patentia, margine

inferne reflexa, superne serrulata, cellulis angustis elongatis superne papilliferis, inferne lævibus, basi ad latera paucis oblongis pellucidioribus; perichætialia erecta, late ovata, acuminata, plicata, lævia. Theca in pedunculo elongato, ovali-globosa, æqualis, inclinata, subhorizontalis, operculo depresse conico acuto, peristomio normali.

B. macrocarpa, *Hampe in Linnæa*, xxxii. 141.

B. macrotheca, *Hampe in Ann. Sc. Nat.* ser 5. iii. 373.

Hab. Ins. Jamaica, *Swartz, March, Wilson*; Venezuela, *Moritz*. Andes Bogotenses, in sylvis Manzanos (2600 metr.), *Lindig*, n. 2115; prope Bogota et in sylvis et in locis apertis (6000–9000 ped.), *Weir*, n. 119; prope cataractam Tequendama ramis attenuatis (7000 ped.), *Weir*, n. 305. Andes Quitenses, Quito et Pichincha, *Jameson*; Pichincha (11,000 ped.), *Spruce*, n. 394; Carguairazo, *Spruce*, n. 395; Tunguragua (7000 ped.), n. 392; Antombos (5000 ped.), *Spruce*, n. 391; Pangor (10,000 ped.), *Spruce*, n. 393.

Caulis 2–4-uncialis, laxe cæspitosus, ramis polymorphis. Folia 2-linearia, viridia fulvescentia aurescentiave, sicca parum mutata, serrulatione marginis plus minus conspicua. Pedunculus ½ unciam longus, interdum fere uncialis. Theca 1½ lineam longa.

Between the specimens from Jamaica and those from New Granada there appears no appreciable difference in stature or in structure, but in some of those from the Quitenian Andes the stems are shorter, the leaves longer, wider, and more densely inserted, giving the specimens a very different aspect; yet in Mr. Spruce's specimens, n. 392, these forms are shown to be but the same species.

30. **B. SCOPARIA** (*Schwægr.* t. 241). Caules steriles in cæspites latissimos congesti, longissimi, parce tomentosi, ramis pinnate dispositis inæqualibus rectiusculis vel horizontalibus flaccidis, approximatis vel remotis; fertiles multo humiliores foliosi et inter folia valde tomentosi, apice ramis fasciculatis brevibus, erectis. Folia caulina sicca et madefacta erecto-patentia, laxiuscula, basi plicata, utrinque ad marginem inferiorem cellulis nonnullis multo majoribus laxioribus fuscidulis areolata, in subulam lanceolatam longissime cuspidatam denticulatam plus minus plicatam producta, margine inferne revoluta, e cellulis angustissimis subpellucidis reticulata; perichætialia caulinis similia. Theca in pedunculo elongato erecto, pyriformi-ovata, erecta, regularis, perfecte sulcata.—*C. Müll. Syn.* i. 490.

Hab. Ins. Martinique, *Sieber*.

31. **B. HISPIDA** (*Mitt.*). Laxe cæspitosa; caulis furcatus, parce ramosus, inferne tomentosus. Folia patentia, sicca immutata, canaliculata, plicata, margine subintegerrima, inferne recurva, cellulis elongatis angustis lævibus, basilaribus ad angulos parvis quadratis; perichætialia interna brevia, ovata,

acuta. Theca in pedunculo breviusculo horizontalis, globosa, inæqualis, operculo depresso convexo mamillato, peristomio normali.

Hab. Ins. Jamaica?, ex *Herb. Brown.*

Caulis 2–3 uncias altus, curvatus, ramis paucis. Folia flavescentia, 2-linearia, nitida, basi haud ovata sed ad insertionem latiora, exinde sensim angustata. Pedunculus ½ unciam longus, ruber.

32. B. JAMAICENSIS (*Mitt.*). Laxe cæspitosa, inferne tomentosa, superne infra perichætium ramis patulis radiatim ramosa. Folia erecto-patentia, planiuscula, basi subplicata, marginibus inferne reflexis, superne minute serrulatis, cellulis superioribus elongatis angustis papilliferis, basilaribus per folii latitudinem quadratis pellucidis; perichætialia ovata, acuminata, tenera, plicata. Theca in pedunculo breviusculo, globosa, inclinata, subæqualis, operculo breviter acuminato, peristomio normali.

Hab. Ins. Jamaica, *Wilson,* n. 815, *Wilds, M'Fadyen,* etiam ex *Herb. Brown.*

Caulis 1–2 uncias altus. Folia 1¼-linearia, lutea, straminea, subnitida, sicca appressa. Pedunculus ½-uncialis. Theca parva.

33. B. PINNATA (*Hampe in Ann. Sc. Nat.* ser. 5. iii. 373). Gracilis, basi rufescenti-tomentosa, prolifero-ramosa; caulis capitato-fasciculatus, deinde ramis lateralibus pinnatus. Folia nervo flavescente, apice denticulata, cellulis chlorophyllosis tuberculatis ubique aspera, subdiaphana, margine cellulis prominentibus muriculata; perichætialia lanceolato-subulata, longe setacea, piliformia. Cætera desunt.

Hab. Andes Bogotenses, Tolima, Summita, in regione nivali, *Goudot,* n. 10.

Ex habitu proprio, ramis pinnatis, vix aliis *Philonotidibus* affinis.—*Hampe, l. c.*

Species a cl. auctore inter *Breutelias* enumerata.

34. B. SQUARROSA (*Mitt.*). Caulis ramosus, elongatus. Folia squarrosa, tenera, plicata, marginibus a basi usque ad medium anguste reflexis, inde ad apicem serrulatis, cellulis elongatis angustis papilliferis basi lævibus, ad angulos paucissimis parvis oblongis inconspicuis.

Hab. Andes Bogotenses, Bogota, *Holton,* n. 15.

Caulis 2–3 uncias altus. Folia 1½ lineam longa, pallide viridia.

Species e speciminibus paucis sterilibus a *B. tomentosa* habitu et statura simillima quidem, foliis tamen latioribus nec a basi latiore acuminatis satis diversa videtur.

35. B. TRIANÆ (*Hampe in Ann. Sc. Nat.* ser. 5. iii. 374). *B. scopariæ* ex habitu proxima, sed robustior et densius ramulosa, minus tomentosa. Folia latiora, dense imbricata, subsecunda et erecto-patentia, basi pluries plicata, margine inferiore revoluta, superne remote denticulata, nervo rufescente angusto cuspidata, in summo argutius dentata; cellulis lateralibus laxis, elongato-quadratis, interstitiis fuscis receptis pellucidis, inter-

mediis linearibus, versus apicem folii abbreviatis, densioribus, minutissime noduloso-punctatis, folia tota lutescenti-diaphana; perigonialia firmiora, a basi latiore late ovato-lanceolata, plicata, nervo percursa et brevius cuspidata, parcius denticulata. Cætera desunt.

Hab. Andes Bogotenses, Paramo, Cipacon (3000 metr.), *Triana.*

Ab *B. scoparia* Schwægr. habitu robustiore et foliis latioribus dense imbricatis satis differt.—*Hampe, l. c.*

36. B. RUPESTRIS (*Mitt.*). Caulis elongatus. Folia densa, a basi erecta plicata patentia, latiuscule plicata, margine minute sed crebre serrulata, cellulis superioribus heteromorphis rotundis ovalibus oblongisque immixtis, papillis brevibus copiosis, inferioribus in parte folii erectiore angustis elongatis. Flos masculus foliis perigonialibus basi vaginantibus apice obtusiusculis.

Hab. Fuegia, Hermite Island, ad rupes maritimas, *J. D. Hooker.*

Caulis 2-uncialis, crassitudine cum foliis 3-linearis. Folia 3-linearia, pallide fulva.

B. elongatæ similis, sed folia et forma et areolatione diversa.

37. B. CARINATA (*Mitt.*). Caulis subsimplex, densifolius. Folia a basi erecta patentia, plicata, nervo tenui percursa, margine serrulata subintegerrimave, cellulis omnibus elongatis angustis dorso præcipue ad plicarum carinas papilliferis, basilaribus in parte folii erectiore flavidis.

Hab. Andes Chilenses, Cordillera de Raneo, Sichahue, *Lechler* (inter n. 813).

Caulis 2-uncialis, crassitudine cum foliis 3-linearis. Folia 3-linearia, pallide fulva.

B. elongatæ simillima, foliis autem pro spatio subquadrato erectis superne dilatatis, cellulis laxioribus marginalibus deficientibus et superioribus papillis nisi in carinis plicarum inconspicuis differt.

38. B. ACIPHYLLA (*Wils.*; *Mitt. in Hook. Kew Journ.* iii. 356). Caulis elongatus, subsimplex. Folia a basi brevi erecta, reflexa, divaricata, elongata, longitudinaliter pluries undulata, nervo angusto excurrente, cellulis elongatis angustis, papillis inconspicuis, in parte erecto croceis, marginalibus in seriebus circiter quatuor latioribus oblongis pellucidis.

Hab. Andes Quitenses, *Jameson.*

Caulis 5–9 uncias altus, curvatus, simplex, tomento brevi inconspicuo. Folia 5 lineas longa, luteo-viridia, subnitida.

Species omnium congenerum gigas, Lycopodiorum nonnullorum instar.

39. B. PLICATA (*Mitt. in Journ. Linn. Soc.* 1859). Folia a basi erecta plicata, utrinque ad margines seriebus pluribus cellularum hyalinarum marginata, patentia, sicca curvata, margine crebre serrulata, nervo percursa, cellulis basilaribus angustis elongatis, superioribus quadratis oblongis rotundatisque minutissime papilliferis subobscuris.

Hab. Andes Chilenses, Cordillera de Raneo, Sichahue, ad scaturigines, *Lechler*, n. 809, ex parte.

Caules 2–3-unciales, inferne tomentosi parum ramosi. Folia viridia obscura, sicca subglaucescentia, hic illic subcrispata.

B. tomentosæ formis crassioribus similis sed folia minus stricta, obscura, cellulis diversiformibus areolata.

40. B. INTEGRIFOLIA (*Tayl. in. Hook. Lond. Journ.* v. 55). Folia patentia, basi parum plicata, superne canaliculata, nervo percursa, margine a basi usque ad medium reflexa, cellulis elongatis angustis lævibus, basi ad angulos paucissimis incrassatis rufis; perichætialia late ovato-subulata, tenera, plicata. Theca in pedunculo elongato, elliptico-clavata, pendula, operculo breviter acuminato.

Hab. Andes Quitenses, Quito, *Jameson*, in monte Pichincha, ad cataractam (11,000 ped.), *Spruce*, n. 398.

Caulis 2–4 uncias altus, inferne radicellis fuscis intertextus. Folia 1½-linearia, lutea, vix nitida, sicca parum mutata. Pedunculus uncialis. Theca 2-linearis, fusca.

Habitu et statura *B. tomentosæ*, sed foliis integerrimis lævibus et thecæ forma diversa.

41. B. DUMOSA (*Mitt. in Journ. Linn. Soc.* 1859). Cæspitosa; caulis erectus, ramis confertis, inferne tomento intertextus. Folia basi caulem amplexantia, patenti-divergentia, cellulis angustis, nervo tenui excurrente mucronata; perichætialia ovata, acumine angustato. Theca in pedunculo breviusculo interdum elongato, oblonga, nutans, operculo brevi conico, peristomio normali.

Hab. Fuegia, Hermite Island, *J. D. Hooker*. Ins. Chiloe, *Lobb*; Chili, *Lechler*, n. 813 et 809 ex parte; etiam in Kerguelen's Land, *J. D. Hooker*.

Caulis 1–4 uncias altus, inferne valde tomentosus. Folia luteo-viridia absque nitore. Pedunculus in speciminibus australioribus ½-uncialis, in Chilensibus autem 1–1½ unciam longus. Theca 2-linearis.

Sect. 3. *Conostomum*, Sw. in Schrad. Neu. Bot. Journ. i. 8.

Musci humiles. Folia glauco-viridia, apicibus sæpius sericeo-nitentibus. Thecæ longe pedunculatæ, plicatæ, subglobosæ, operculo rostrato, peristomio simplici externo vel nullo.

42. B. AUSTRALIS (*Sw. l. c.*). Monoica, cæspitosa. Folia dense quinquefaria, erecto-appressa, sublanceolata, nervo crasso ubique a pagina distincto, dorso denticulato scabro, in pilum lævem longe excurrente, marginibus a medio ad apicem usque anguste reflexis serrulatis, cellulis marginalibus oblongis rectangulis, interioribus ad nervum angustioribus, omnibus fere facie interna papilliferis; perichætialia erecta, latiora, pellucida, fere lævia, nervo angustiore. Theca in pedunculo crassiusculo rubro, subglobosa, gibba, ætate plicata, operculo conico curvirostro.

Hab. Andes Quitenses, in monte Picillún, etiam prope Quito, *Jameson in Herb. Hooker.* Fuegia in fretu Magellan, *Commerson*; Staaten Land, *Menzies.* Ins. Falkland, *J. D. Hooker.*

Caulis 1–1½-uncialis. Pedunculus ½–1-uncialis. Theca erecta horizontalisve.

43. B. MAGELLANICA (*Sulliv. in Hook. Kew Journ.* ii. 316; *Amer. Explor. Exp.* t. 8. f. *c*). Monoica, dense cæspitosa, caulibus gracilibus innovando-ramosis inferne tomentoso-intertextis. Folia quinquefariam disposita, oblongo-ovata, obtusa, carinato-concava, integerrima, lævia, arctissime (in sicco vel humido) incurvo-appressa, costa lata sub apice evanida instructa, quadrate laxius areolata. Flores terminales; masculus disciformis, antheridiis numerosissimis paraphysibus clavatis; fœmineus capituliformis, archegoniis gracilibus paraphysibus filiformibus. Folia perichætialia longius acuminata, costa excurrente.

Hab. Fuegia, Orange Harbour, Terra del Fuego, *U. S. Exploring Expedition.*

Sect. 4. *Eubartramia.*

Musci humiles vel elongati. Folia intense viridia, rarius siccitate crispata. Thecæ breviter vel elongate pedunculatæ, læves vel plicatæ, operculis brevissimis, peristomio normali imperfecto vel nullo.

Subsect. 1. *Leiomela.*

44. B. SUBSESSILIS (*Tayl. in Hook. Lond. Journ.* vi. 334). Dioica?, cæspitosa. Folia angusta, patenti-recurva, subsecunda, sicca appressa, nervo superne dorso denticulato excurrente, marginibus inferne anguste reflexis, superne serrulatis, cellulis basi ad nervum paucis elongatis angustis, lateralibus superioribusque omnibus oblongis obscuris. Theca globosa, erecta, ore minuto, operculo planiusculo.

Glyphocarpa Taylori, *Hampe in Ann. Sc. Nat.* ser. 5. iii. 370.

G. levisphæra, *Tayl. in Hook. Lond. Journ.* v. 56.

Hab. Andes Quitenses, *Jameson*; ad pontem Baños (6000 ped.), *Spruce*, n. 403; Guayrapata (9000 ped.), *Spruce*, n. 404; ad pedem montis Tunguragua (7000 ped.), *Spruce*, n. 405; Pichincha (10,000 ped.), *Spruce*, n. 406. Andes Novo-Granatenses, prope Bogota, *Weir*, n. 217; ibidem in declivibus rupestribus in Boqueron (8500 ped.), *Weir*, n. 195; in descensu a planitie Bogotæ ad Fusagasuga (8000 ped.), *Weir*, n. 293; Los Laches et Guadelupe (2800–3200 metr.), *Lindig.*

Caulis ½–4-uncialis, furcatus. Folia 2-linearia, rigida, viridia, rufescentia fuscave. Pedunculus lineam longus. Theca fusca.

45. B. SETIFOLIA (*Hook. Ic. Pl.* t. 135, Gymnostomum). Dense cæspitosa. Folia erecto-patentia, basi cellulis angustis pellucidis areolata, nervo dorso scabro excurrente, margine superne serrulato, cellulis angustis

obscuris; perichætialia longiora, denticulis longioribus serrulata. Theca in pedunculo brevi curvato, globosa, nutans, leptoderma, ore parvo.

B. intertexta, *Schimp.*; *C. Müll. Syn.* i. 503.

Hab. Mexico, *Ehrenberg.* Andes Peruvianæ, Cerro Pasco et Huamantanga, *Mathews*; Quito, *Jameson.*

Caulis uncialis, gracilis. Folia 2-linearia, pallide viridia, lutescentia, subnitida, sicca appressa; perichætialia 3–4 lineas longa, capillaria, flexuosa. Pedunculus 2½ lineas longus.

46. B. ARISTATA (*Mitt.*). Dioica?, caules inferne radicellis ferrugineis intertexti, compacte cæspitosi. Folia patentia, canaliculata, nervo dorso subscabro percursa, marginibus a basi ad medium usque reflexis, inde ad apicem serrulatis, cellulis omnibus angustissimis elongatis papilliferis subobscuris; perichætialia multo longiora, capillaria, flexuosa. Theca globosa, nitida, fusca, lævis.

Hab. Andes Quitenses, in summo monte Pichincha (12,000 ped.), in rupium fissuris, *Jameson.*

Caulis 1–4-uncialis. Folia 3-4 lineas longa, luteo-viridia, sicca parum appressa; perichætialia 11 lineas longa. Pedunculus lineam longus. Theca magna.

47. B. JAMESONI (*Tayl. in Hook. Lond. Journ.* vi. 334). Synoica; cæspitosa. Folia patentia, nervo dorso scabro excurrente, marginibus in parte subulata ubique minute sed dense serrulatis, cellulis superioribus oblongis obscuris, in parte folii oblonga angustis elongatis pellucidioribus firmis; perichætialia longiora. Theca in pedunculo brevissimo fere sessilis, ovali-globosa, erecta, operculo planiusculo, peristomii dentibus angustis brevibus.

Leucodon Bartramia, *Hook. Ic. Pl.* t. 71.

Bartramia viridissima, *C. Müll. Syn.* i. 496.

Cryptopodium Hookeri, *Hampe in Ann. Sc. Nat.* ser. 5. iii. 370.

Hab. Andes Quitenses, *Jameson,* Chimborazo (3000–4000 ped.), *Spruce,* n. 407; in sylva Canelos (3000 ped.), *Spruce,* n. 409; in monte Abitagua (3000 ped.), *Spruce,* n. 410; Antombos ad arbores (5000 ped.), *Spruce,* n. 411; Tunguragua (7000 ped.), *Spruce,* n. 412, n. 413 (forma gracilis juvenilis ad arbores); Guayrapata (9000 ped.), *Spruce,* n. 415. Andes Bogotenses in sylvis prope Bogota ad arbores passim (6000–7000 ped.), *Weir,* n. 116; Guadelupe et La Penna (2900–3200 metr.), *Lindig.* Ins. Ind. occid. Jamaica, ex *Herb. Brown.*

Caulis 1–3-uncialis, inferne fusco-radiculosus. Folia 4 lineas longa, angusta, rigidula, sicca parum curvata, viridia fuscescentia; perichætialia capillaria, pellucida, subnitida, 8 lineas longa, sæpissime autem diffracta inconspicua. Theca inter folia immersa, fusca.

48. B. LUTESCENS (*Hampe in Ann. Sc. Nat.* ser. 5. v. 339). Laxe cæspitosa, uncialis, lutescenti-viridis; caulis erectus, diviso-ramosus, subfastigiatus, dense foliatus, basi fuscescenti-tomentosus. Folia erecta, rigida,

humida parum patula, serrulata, excurrentinervia. Theca rotundo-ovata, lævis, leptoderma, ore rubro ornata, subexserta; peristomio interno, simplici, dentibus sanguineis per paria approximatis.—*Hampe, l. c.*

Hab. Andes Bogotenses, La Penna (2900 metr.), *Lindig.*

B. Jamesoni Tayl. proxima, sed foliis rigidis primo visu differt.—*Hampe, l. c.*

Subsect. 2. *Glyphocarpus*, Brown.

49. B. STRUMOSA (*Hampe*). Synoica, humilis, cæspitosa. Folia erecto-patentia, densa, basi oblonga, cellulis areolata elongatis pellucidis densissime papillosis obscuris, nervo crasso rigido ubique distincto excurrente, marginibus superne serrulatis. Theca globosa, erecta, æqualis, plicata, os versus parvum lævis, gymnostoma, operculo conico-convexo.

Hab. Andes Bogotenses, Guadelupe, Pacho et Rio Arzobispo (2800–3200 metr.), *Lindig*; in cacuminibus montium Serrato et Guadelupe abundans (10,000 ped.), *Weir*, n. 222.

Caulis 1–2 lineas altus. Folia lineam longa, intense viridia, demum rufescentia, sicca appressa. Pedunculus ½ unciam longus. Theca rufa.

50. B. HUMILIS (*Mitt.*). Synoica, cæspitulosa, humilis, ramosa. Folia basi erecta vaginantia, cellulis elongatis hyalinis, patenti-recurva, cellulis parvis papillosis obscuris, nervo dorso papillato serrulato usque ad apicem distincto, marginibus minute dense serrulatis, ad basin partis subulatæ reflexis. Theca erecta, globosa, sicca plicata, operculo conico obtuso.

Phascum Jamesoni, *Tayl. Herb.*

Hab. Andes Quitenses, in montibus Chimborazo et Pichincha, *Jameson.* Andes Bogotenses, in montibus prope Bogota (9000 ped.), *Weir*, n. 216.

Caulis 1–6 lineas altus. Folia fere 3-linearia, glauco-viridia, siccitate laxe appressa. Pedunculus vix 4-linearis.

An peristomium rudimentarium adsit specimina vix elucent.

Subsect. 3. *Plagiomela.*

51. B. AMBIGUA (*Mont. in Ann. Sc. Nat.* ser. 3. iv. 103). Folia sensim subulata, a basi brevi erectiore patentia, apicibus subrecurvatis, nervo a lamina distincto dorso superne denticulato excurrente carinata, marginibus inferne reflexis superne serrulatis, cellulis basi interioribus paucis angustis elongatis, exterioribus quadratis, superioribus oblongis obscuris. Theca in pedunculo elongato, globosa, suberecta, operculo parvo convexo; peristomii dentibus angustis teneris, interno nullo.

Hab. Chili, ex *Herb. Montagne*; Valparaiso, *Cuming*, n. 649; Colchaque, *Herb. Hooker*; Peru, *Cuming.*

Caules 1–3-unciales. Folia 2-linearia, viridia fuscescentia, sicca erecta, stricta, appressa. Pedunculus 4-linearis.

52. B. FLAVICANS (*Mitt. in Hook. Kew Journ.* iii. 55). Laxe cæspitosa; caulis parum ramosus. Folia basi erecta, cellulis elongatis pellu-

cidis areolata, patentia, margine minute serrulata, dorso papillis aspera, cellulis omnibus viridibus abbreviatis obscuris. Theca in pedunculo elongato rubro, globosa, inclinata, inæqualis, operculo convexo-conico; peristomii externi dentibus brevibus, interno nullo.

B. bogotensis, *Hampe in Linnæa*, xxxii. 142, et serius in Ann. Sc. Nat. ser. 5. iii. 374.

Hab. Andes Bogotenses, Guadelupe (3100–3200 metr.), *Lindig*; ad viam inter Bogota et Fusagasuga (7000 ped.), *Weir*, n. 121; in via ad summitatem montis Serrato ducens (9000 ped.), *Weir*, n. 220.

Caulis ½–1 unciam altus. Folia viridia flavescentia, humida patentia, sicca erecta, laxe appressa. Pedunculus subuncialis.

B. ithyphyllæ Brid. similis.

53. B. SUBPATENS (*Hampe in Ann. Sc. Nat.* ser. 5. iii. 375). *B. patenti* Brid. similis, sed differt vagina foliorum oblongo-cuneata nec superne dilatata, valde rotundata, et theca brevius pedicellata, minore nec magna.

Hab. Andes Bogotenses, Chiquinquira (2700 metr.), *Lindig.*

54. B. PATENS (*Brid. Sp. Musc.* iii. 82). Folia basi cauli appressa, patentia, nervo in parte patente a lamina indistincto dorso brevissime denticulato, marginibus minute serrulatis, cellulis omnibus elongatis superioribus obscuris in parte erecta longioribus pellucidis; comalia a basi latiore sensim latius subulata. Theca in pedunculo elongato, globosa, inclinata, gibba, operculo convexo-conico, peristomio normali.

Hab. Fuegia, in fretu Magellan, *Commerson*; Hermite Island, *J. D. Hooker.*

Caulis ½–1-uncialis. Folia 2½-linearia, comalia 3½-linearia, viridia lutescentia, sicca immutata. Pedunculus ¾-uncialis.

55. B. SCHIMPERI (*C. Müll. Syn.* ii. 617). Rami haud tomentosi. Folia conferta, patentia et erecto-patentia, siccitate incumbentia subtortilia, stricta, planiuscula, margine argute serrata, nervo valido excurrente mucronata, utraque pagina tuberculosa. Theca subcernua, subglobosa, sicca costata, operculo mamillari; peristomii duplicis dentes exteriores integri, vel medio hiantes, apice fissi; interiores rudimentarii, membrana angusta emarginata pallide lutea.—*C. Müll. l. c.*

Hab. Mexico, Pico de Orizaba (12,000 ped.), *Liebmann.*

56. B. COSTARICENSIS (*C. Müll. Syn.* ii. 618). *B. patenti* simillima, sed folia multo breviora, sicca parum crispata, e basi laxe elongata reticulata, pellucida, tenera, apice rotundata, subito in subulam canaliculatam maxime opacam, margine revoluto et dorso maxime scaberrimam serrulatam producta, nervo carinato excurrente subulam superiorem totam percurrente; perichætialia magis erecta. Theca in pedunculo longiusculo,

innovationes autem vix superans, lateralis, inclinata, turgide globosa, valde plicato-corrugata, minutius reticulata.—*C. Müll. l. c.*

Hab. America centralis, Costa Rica, in regione montosa (5000–8000 ped.), *Œrsted.*

57. B. POMIFORMIS (*Hedw. Sp. Musc.* 164). Folia basi cauli appressa, elongata, angusta, canaliculata, patenti-incurva, nervo ubique a lamina folii conspicuo excurrente, dorso breviter serrulato, cellulis basi angustis, superioribus rotundatis obscuriusculis inter se discretis; comalia longiora. Theca in pedunculo elongato, globosa, obliqua, operculo conico, peristomio normali.

Hab. Fuegia, in fretu Magellan, Sandy Point, *Lechler,* n. 1170.

58. B. POTOSICA (*Mont. in Ann. Sc. Nat.* ser. 2. ix. 56). Folia a basi oblonga erecta cauli appressa, cellulis elongatis pellucidis areolata, subito contracta, lineari-subulata, patentia, cellulis elongatis obscuris, nervo a lamina indistincto, dorso papillis densis obtecta, marginibus denticulis copiosis serrulatis; comalia parum majora. Theca in pedunculo brevi suberecta, globoso-ovalis, leptoderma, peristomio parvo normali.

Hab. Andes Bogotenses, in cacumine montium Montaña Herveo regionis nivalis, Tolima, *Goudot,* n. 36. Andes Quitenses, *Jameson.* America australis, *Lobb.* In jugis Andium, prov. Potosi ad rupes prope glacies æternas, *D'Orbigny.* Chili, San Gavan ad arborum truncos, *Lechler,* n. 2680.

Caulis $\frac{1}{2}$–1-uncialis. Folia $2\frac{1}{2}$-linearia, viridia, fuscescentia, sicca stricta erecta. Pedunculus 3-linearis. Theca lineam longa.

59. B. MICROSTOMA (*Mitt.*). Caulis elongatus. Folia a basi oblonga superne dilatata, erecta, cellulis elongatis pellucidis areolata, patentia, longe subulato-attenuata, margine ubique erecta, supra basin usque ad apicem serrulata, nervo obscuriore percursa, cellulis obscuris ad margines paucis pellucidioribus sublimbata; perichætialia conformia. Theca in pedunculo brevi recto, globosa, inclinata, operculo parvo; peristomii dentibus irregularibus brevibus, interni membrana brevi.

Hab. Guatemala, Volcan d'Agua (7000–12,000 ped.), *Godman et Salvin.*

Caulis circiter unciam altus, simplex vel dichotomus. Folia $3\frac{1}{2}$ lineas longa, obscure viridia, sicca parum mutata. Pedunculus 2-linearis.

60. B. HALLERIANA (*Hedw. Musc. Frond.* ii. 40). Cæspitosa; caulis plus minus elongatus, inferne tomentosus. Folia a basi breviter oblonga erecta sensim subulata, patentia, incurva, sicca laxe crispata, canaliculata, nervo crassiusculo a lamina folii distincto, dorso superne denticulato, marginibus inferne reflexis, superne serrulatis, cellulis basilaribus elongatis angustis, superioribus quadrato-rotundis obscuriusculis inter se discretis; comalia longiora, latiora; perichætialia interna parva, ovato-subulata, tenera. Theca in pedunculo brevi, globosa, inclinata, inæqualis, plicata, operculo conico, peristomio normali.

B. Mossmanniana, *C. Müll. in Bot. Zeit.* 1851, 552.

Hab. Fuegia, in fretu Magellan, Cabo Negro, *Lechler.*

Caulis 1–4 uncias altus, inferne radiculis rufis intertextus. Folia 2-linearia, viridia, luteo-fulvescentia, sicca curvata, laxe crispata. Pedunculus 2-linearis.

61. B. **MATHEWSII** (*Mitt.*). Cæspitosa; caulis subsimplex. Folia basi erecta, hyalina, superne dilatata, subito patentia, superne serrulata, opaca, papillosa, nervo in subula cum lamina folii confluente; perichætialia multo longiora, minus opaca, thecam oblongo-globosam erectam superantia; peristomium dentibus perfectis, internum.

Hab. Peruvia, ad Casapi, *Mathews.* Andes Quitenses, *Jameson.*

Caulis uncialis, inferne tomentosus. Folia densiuscula, 2½ lineas longa, perichætialia 6–7-linearia, capillaria. Flos masculus crassiusculus, foliis basi latioribus cinctus.

62. B. **LONGIFOLIA** (*Hook. Musc. Exot.* t. 68). Folia a basi erecta, superne dilatata, pellucide areolata, subito contracta, dorso dense papillosa, margine serrulata reflexa, nervo subindistincto percursa, cellulis elongatis obscuris. Theca in pedunculo breviusculo, globosa.

Hab. In devexis udis frigidis montis Quindiu, Cordillera de Los Andes de Cundinamarca (1400 hexap.), granitici habitans, *Humboldt et Bonpland.*

Caulis 3-uncialis. Folia angustissima, 5 lineas longa, viridia. Pedunculus 7 lineas longus.

63. B. **ANGUSTIFOLIA** (*Mitt.*). Caulis elatus, parce ramosus. Folia a basi erecta, superne dilatata, nitida, cellulis elongatis angustis areolata, subito longissime attenuata, papillosa, marginibus serrulatis, nervo in parte subulata cum folii lamina confluente, perichætialia conformia. Theca in pedunculo brevi, globosa, paululum inæqualis, operculo convexo mamillato, peristomio normali.

B. longifolia, *Mitt. in Musc. Jameson.*

Hab. Andes Quitenses, Quito, *Jameson.*

Caulis 1–6 uncias altus. Folia in caulibus longioribus magis divergentia, apicibus sæpe diffractis. Pedunculus 5-linearis.

A *B. longifolia* foliis basi magis dilatatis, et margine in parte subulata haud reflexo, etiam statu sicco minus curvatis recedit.

64. B. **MÜLLERI** (*Mont.*; *C. Müll. Syn.* i. 498). Dioica?, dense cæspitosa; caulis elatus, teretiusculus, recurvo-flexuosus, apice comoso incurvatus, inferne tomentosus, albido-viridis. Folia caulina erecto-appressa, e basi elongato-vaginata albida, pellucida, laxiuscule elongate anguste et tenuiter reticulata, superne dilatata, subito latiuscule canaliculate et elongate subulata acuta, margine haud revoluto sensim argute serrata, ad subulæ minute reticulatæ dorsum papillis densis brevibus scaberrima, nervo crasso excurrente viridi subulam totam fere occupante;

perchætialia sensim magis subulata. Theca in pedunculo brevi pseudolaterali, globosa, crassa, obliqua, operculo hemisphærico conico; peristomium normale, magnum.—*C. Müll. l. c.*

B. potosica, *C. Müll. in Linnæa*, xx. 204, et *Hampe in Linnæa*, xx. 76.

Hab. Columbia, Sierra Nevada prov. Meridæ, *Moritz*, n. 187 *b.*

Tribus X. BRYEÆ.

51. LEPTOSTOMUM, Brown in Trans. Linn. Soc. x. 130.

Musci caulibus inferne valde tomentosis, in cæspites intertextis. Folia rigida, cartilaginea, cellulis superioribus rotundis areolatis. Thecæ magnæ, elongatæ, operculis brevibus. *Habitatio* ad terram ?

Folia imbricata, ovali-oblonga.................. 1. *L. splachnoides.*
Folia patentia, elliptico-oblonga................ 2. *L. Menziesii.*

1. L. SPLACHNOIDES (*Hook. et Arn. Bot. Beech. Voy.* 53; *Schwægr.* t. 305). Caules inferne radicularum copia compacte intertexti. Folia tereti-imbricata, ovali-oblonga, obtusa, pilo elongato flexuoso terminata, planiuscula, integerrima, nervo sub apice desinente, cellulis omnibus anguloso-rotundis pellucidis lævibus; perichætialia erecta, subulato-angustata, pilo longiore subnoduloso geniculato flexuoso terminata. Theca in pedunculo breviusculo, ovalis, horizontalis, æqualis, operculo hemisphærico.

Hab. Chili, *Pœppig, Lay et Collie, C. Gay*, ex *Herb. Schimper*; Valdivia, *Lechler*, n. 589. Ins. Chiloe, *Lobb.*

Caulis innovationibus continuus, ½–1½ unciam altus. Folia fere lineam longa, lutea, firma, pilo rufescente. Pedunculus ½-uncialis. Theca 2-linearis.

The capsule is too much curved in Schwægrichen's figure.

2. L. MENZIESII (*Hook. Musc. Exot.* t. 6, Gymnostomum). Dioicum. Cæspitosum, inferne radiculis intertextum. Folia patentia, elliptico-oblonga, planiuscula, apice acuminata, nervo in pilum elongatum flexuosum excurrente, marginibus subserrulatis inferne recurvis, cellulis rotundo-angulosis; perichætialia angustiora, sensim subulato-angustata, pilo subscabro. Theca in pedunculo breviusculo inclinata, cylindracea, extus curvata, ore coarctato, operculo conico oblique acuminato.

Hab. Fuegia, Staaten Land, *Menzies*; Hermite Island, *J. D. Hooker.*

Caulis subuncialis. Folia 2-linearia, viridia, pallide fulvescentia, firma. Pedunculus 4 lineas longus. Theca 5-linearis.

A *L. splachnoide* foliis marginibus recurvatis pilo breviore et theca elongata curvata diversissimum.

52. ORTHODONTIUM, Schwægr. ii. pars 2. 123.

Musci humiles, graciles. Folia angusta, cellulis elongatis angustis areolata. Thecæ inclinatæ, ovales, collo sensim angustato, peristomio tenero.

Florescentia synoica	1. *O. tenellum.*
Florescentia dioica	2. *O. humile.*

1. O. TENELLUM (*Mitt.*). Synoicum, cæspitosum; caulis humilis, fastigiate ramosus, radiculosus. Folia comalia erecto-patentia, anguste linearia, sensim angustata, canaliculata, flexuosa, nervo percursa, marginibus integerrimis uno latere inferne reflexis, cellulis elongatis angustis. Pedunculus pallidus, longitudine folia haud excedens. Theca inclinata, sporangio ovali, collo æquilongo attenuato; peristomii dentibus brevibus luteis subulatis, interni processibus angustis subæquilongis.

Hab. Andes Quitenses, Picillun, *Jameson*; etiam in Brasilia, *Gardner*? *in Herb. Hooker.*

Caulis 4 lineas altus, in ramos plures divisus, apicibus flores plures foventibus. Folia superiora 2-linearia, lutea, inferiora fulvo-fusca. Theca parva, pallidissime fusca.

O. gracili Schwægr. (Europæ) similis, sed foliis longioribus pedunculoque breviore diversum.

2. O. HUMILE (*Mont. in Ann. Sc. Nat.* ser. 3. iv. 104, Bryum). Dioicum, pusillum, simplex, gregarie cæspitosum. Folia caulina lanceolata, angusta, longiuscula, acuta, integerrima, flexuosa, caviuscula, acuta, nervo excurrente; perichætialia longiora. Theca minima, horizontalis, inclinata, ovalis, aperta cylindracea, brevicollis, operculo conico brevissimo, annulo parvo et pedunculo brevissimo flexuoso prædita; dentes peristomii externi breves, transverse trabeculati, angusti, pellucidi, interni ciliiformes, bifidi, a basi ad medium tantum secedentes.

O. tenue, *C. Müll. Syn.* i. 240.

Hab. Chili australis, *Pœppig et C. Gay.*

Archegonia longissima, 5–6, paraphysibus nonnullis teneris mixta. Flos masculus ignotus. Omnium congenerum humillimum, pygmæum. *Orthodontium* verum et distinctum exiguitate, inflorescentia, theca annulata et dentibus peristomii. Species tenella.—*C. Müll. l. c.*

53. BRYUM, Linn.

Musci caulibus erectis, rarissime subrepentibus, simplicibus vel innovationibus e basi vel infra florem egredientibus ramosis. Folia parva, brevia, rarius magna, sæpe limbata, cellulis elongatis vel abbreviatis, parietibus angustis areolata. Thecæ longe pedunculatæ, erectæ, inclinatæ pendulæve. *Habitatio* ad terram, etiam in arboribus.

Sect. 1. BRACHYMENIUM. *Theca erecta inclinatave. Peristomium internum e membrana erosa.*

Flores monoici .... 1. *B. patulum.*
Flores dioici.
  Folia apice in pilum educta.
    Folia ovalia, concava, acuta .... 2. *B. systylium.*
    Folia obovalia subspathulata, integerrima.. 3. *B. capillifolium.*
    Folia ovalia planiuscula .... 4. *B. Hornschuchianum.*
    Folia lanceolata .... 5. *B. heteroneuron.*
    Folia obovato-spathulata, apice serrulata . 6. *B. consimile.*
  Folia apice mucronata.
    Folia ovalia, acuminata, concava, nervo excurrente. 7. *B. mexicanum.*
    Folia ovata, nervo sub apice evanido .... 8. *B. imbricatifolium.*
    Folia late oblongo-lanceolata .... 9. *B. Regnellii.*
    Folia oblonga, nervo crasso excedente mucronata. 10. *B. Klotzschii.*
    Folia oblongo-lanceolata, nervo evanescente 11. *B. Martianum.*

Sect. 2. PEROMNION. *Theca erecta. Peristomium internum processibus abbreviatis imperfectis.*

Flores dioici.
  Folia oblongo-elliptica .... 12. *B. Jamesoni.*
  Folia subspathulato-elliptica.............. 13. *B. radiculosum.*
  Folia late obovata .... 14. *B. Wrightii.*
Flores synoici .... 15. *B. magellanicum.*

Sect. 3. ACIDODONTIUM. *Theca inclinata. Peristomium internum processibus latis per carinam mediam fissis, laciniis divergentibus.*

Folia immarginata .... 16. *B. seminerve.*
Folia limbo marginata.
  Folia ovali-lanceolata, subacuminata........ 17. *B. exaltatum.*
  Folia elliptico-lanceolata .... 18. *B. Sprucei.*
  Folia anguste oblongo-lanceolata .... 19. *B. ramicola.*
  Folia ovali-elliptica...................... 20. *B. megalocarpum.*
  Folia elliptico-ovata .... 21. *B. rhamphostegium.*
  Folia ovali-lanceolata, acuminata .... 22. *B. subrotundum.*

Sect. 4. EUBRYUM. *Theca erecta, inclinata v. pendula. Peristomium internum processibus carinatis ciliis interpositis interdum obsoletis.*

Subsect. 1. DICRANOBRYUM. *Theca erecta vel inclinata. Peristomium processibus imperfectis. Folia limbo marginali carentia.*

Folia obovata .... 23. *B. Gilliesii.*
Folia elliptico-lanceolata, integerrima .... 24. *B. Wilsoni.*

Folia latiuscule ovalia, integerrima .... 25. *B. Meyenianum.*
Folia ovata, acuminata .... 26. *B. ellipticum.*
Folia elliptico-lanceolata, apice serrulata ...... 27. *B. didymodontium.*
Folia lanceolato-subulata, integerrima .... 28. *B. globosum.*
Folia ovali-elliptica, apice serrulata .... 29. *B. fusiferum.*
Folia suborbiculari-ovata .... 30. *B. smaragdinum.*
Folia lanceolata acuminata, apice subserrulata. 31. *B. papillosum.*

Subsect. 2. WEBERA. *Theca inclinata pendulave. Peristomium processibus ciliisque plus minus perfectis. Folia nitida immarginata.*

Antheridia in axillis foliorum comalium caulium fertilium libera.
- Theca sporangio anguste cylindraceo, collo subæquilongo. 32. *B. spectabile.*
- Theca sporangio oblongo, collo dimidio breviore. 33. *B. subcurvatum.*
- Theca parva, anguste oblongo-cylindrica .... 34. *B. paucifolium.*
- Theca elongato-cylindrica, angustissima, longicolla. 35. *B. integridens.*
- Theca maxime clavata, robustissima .... 36. *B. Œrstedianum.*
- Theca sporangio ovali, collo tumido dimidio breviore. 37. *B. nutans.*
- Theca sporangio globoso, collo attenuato .. 38. *B. pyriforme.*

Antheridia in axillis foliorum caulium fertilium imposita vel in capitulo proprio acervata.
- Theca sporangio oblongo-cylindracea, collo ut plurimum tumido. 39. *B. crudum.*

Flores dioici.
- Theca sporangio ovato-cylindraceo.
  - Sporangium collo dimidio breviore ...... 40. *B. leptodontium.*
  - Sporangium collo subæquilongum .... 41. *B. polycarpum.*
- Theca pyriformis, brevis .... 42. *B. albicans.*

Subsect. 3. ECCREMOTHECIUM. *Theca inclinata pendulave. Peristomium processibus ciliisque sæpius perfectis. Folia rarius nitida, sæpius limbo marginata.*

Peristomium internum ciliis nullis.
- Flores monoici vel synoici.
  - Theca minuta, vix pyriformis, ovalis...... 43. *B. Gayanum.*
  - Theca elliptico-oblonga .... 44. *B. flexisetum.*
- Flores dioici.
  - Theca clavato-pyriformis, crassa, collo longiusculo. 45. *B. platyphyllum.*
  - Theca sporangio ovali, collo pyriformi .... 46. *B. socorrense.*

Peristomium internum ciliatum.
Flores synoici.
Folia oblongo-lanceolata, integerrima .... 47. *B. semimarginatum.*
Folia oblonga acuminata, superne serrulata. 48. *B. torquescens.*
Folia oblongo-elliptica acuminata, superne serrulata.
49. *B. Gardneri.*
Folia ovalia acuta .... 50. *B. bimum.*
Folia oblonga angusta .... 51. *B. Philippianum.*
Folia lato-lanceolata .... 52. *B. nivale.*
Flores dioici.
Folia ramorum superiorum teretiuscule imbricata.
Folia cellulis subconformibus areolata.
Folia lanceolata oblonga............ 53. *B. Crügeri.*
Folia ovato-lanceolata, integerrima .. 54. *B. microchæton.*
Folia lato-lanceolata, cuspidata...... 55. *B. conicum.*
Folia lanceolata, cuspidata........... 56. *B. gracilisetum.*
Folia oblongo-ovata, acuminata...... 57. *B. multiflorum.*
Folia lato-lanceolata, acuminata .... 58. *B. microcarpum.*
Folia ovata, acute pungentia........ 59. *B. remotifolium.*
Folia elongate lanceolata, longe acuminata.
60. *B. angustifolium.*
Folia a basi brevissime angustiore oblongo-ovalia.
61. *B. limbatum.*
Folia late ovata, acuta .... 62. *B. turbinatum.*
Folia ovato-lanceolata, latiuscula .... 63. *B. apiculatum.*
Folia ovato-lanceolata, concava...... 64. *B. dichotomum.*
Folia elliptico-lanceolata .... 65. *B. erythrocarpum.*
Folia latissime ovata, acuta .... 66. *B. leptocladon.*
Folia orbiculata, acuta .... 67. *B. brachyphyllum.*
Folia ovata, laxe areolata .... 68. *B. tenellum.*
Folia cellulis superioribus abbreviatis, inferioribus angustis elongatis.
Folia late orbiculato-ovata, obtusa .. 69. *B. candicans.*
Folia late subrotundate ovata, apiculata.
70. *B. argenteum.*
Folia cordato-ovata, mucronata...... 71. *B. brevicaule.*
Folia late ovata, anguste acuminata .. 72. *B. plagiopodium.*
Folia latissime ovata, excavata, nervo in acumen angustum patens producto .... 73. *B. chryseum.*
Folia cordato-triangularia, longius et tenuiter acuminata.
74. *B. pungens.*
Folia ovata, subulata .... 75. *B. sericeum.*
Folia ovata, nervo longe excurrente .. 76. *B. filinerve.*
Folia ovali-lanceolata .... 77. *B. semiovatum.*
Folia ovalia, obtusiuscule acuta...... 78. *B. julaceum.*

Folia latissime ovata obovatave, obtusiuscule acuta.
79. *B. prostratum.*
Folia orbiculata, apice angulo obtuso terminata.
80. *B. orbiculatum.*
Folia superiora patentia.
Folia integerrima.
Folia lata oblongo-ovata, lanceolata .. 81. *B. sordidum.*
Folia ovali-lanceolata, nervo piliformi excurrente.
82. *B. subpilosum.*
Folia ovata, acuta .... 83. *B. tenuicaule.*
Folia ovato-lanceolata, obtusiuscula .. 84. *B. clavatum.*
Folia oblonge vel ovato-acuminata .. 85. *B. macropelma.*
Folia elongate lanceolata, acuminata.. 86. *B. Wagneri.*
Folia ovalia, nervo piliformi excurrente.
87. *B. cavum.*
Folia late ovalia, acuta, nervo in mucronem brevem excurrente.
88. *B. congestum.*
Folia ovali-lanceolata .... 89. *B. concavum.*
Folia ovali-lanceolata, acuminata .... 90. *B. soboliferum.*
Folia apice serrulata.
Theca collo subnullo .... 91. *B. coronatum.*
Theca collo attenuato.
Folia oblongo-obovata .... 92. *B. capillare.*
Folia ovalia, acuminata .... 93. *B. terebellum.*
Folia ovali-elliptica .... 94. *B. pallens.*
Folia anguste elongate elliptico-lanceolata.
95. *B. proliferum.*
Folia ovalia, acuta .... 96. *B. Maynense.*
Folia elliptico-spathulata .... 97. *B. erythroneuron.*
Folia a basi breviter oblonga latiusculo-acuminata.
98. *B. Ehrenbergianum.*
Folia ovali-oblonga .... 99. *B. rigidum.*
Folia elliptico-lanceolata, acuminata. 100. *B. densifolium.*
Folia oblongo-obovata .... 101. *B. andicola.*
Folia late oblongo-ovata, nervo excurrente.
102. *B. rosulatum.*
Folia ovali-spathulata .... 103. *B. grandifolium.*
Folia latissime obovata rotundata .. 104. *B. Goudotii.*
Folia late oblongo-ovata, nervo apice cum limbo confluente.
105. *B. Lindigianum.*
Folia late obovata, subspathulato-elliptica.
106. *B. Beyrichianum.*

Sect. 1. *Brachymenium.*

Musci cæspitosi, caulibus breviusculis. Folia lata. Thecæ erectæ vel inclinatæ, operculis brevibus depressis.

1. B. PATULUM (*Schimp.; C. Müll. Syn.* ii. 579). Monoicum, laxe cæspitosum; caulis $\frac{1}{2}$–$\frac{3}{4}$ unciæ altus, ad comam usque radiculosus. Folia inferiora remota, minuta, appressa, ovato-lanceolata acuminata, ferruginea, pellucida, evanidinervia; comalia multo majora, conferta, patula, spathulata, nervo ferrugineo in mucronem excedente, margine plus minus conspicue circumducta, apice remote denticulata, intense viridia, opaca, sicca complicata tortuosa; perichætialia minora, vix vaginulam superantia erecta. Theca in pedunculo unciali tenui erecta, oblonga, leptoderma, badia, collo sporangio duplo breviore, siccitate sub ore leniter constricto; peristomii majusculi exterioris dentes lanceolato-subulati, remote articulati, pallide ferruginei, humore erecto-patentes apice incurvi, siccitate omnino incurvi; interioris membrana dentibus duplo brevior, plicata, margine inæquali, laxe reticulata, punctulata.—*C. Müll. l. c.*

Hab. Mexico, Mirador, ad arborum truncos.—*Liebmann.*

2. B. SYSTYLIUM (*C. Müll. Syn.* i. 320). Dioicum, compacte cæspitosum; caules inferne tomento radicularum intexti. Folia æqualia, patentia, in ramorum apicibus imbricata; caulina breviter ovalia, concava, acuta, nervo excurrente piliformi, marginibus planis recurvisve integerrimis, limbo nullo; comalia longiora oblonga, marginibus reflexis, apicibus piliformibus, nervo continuo vel sub apice desinente, cellulis ovali-hexagonis utriculo contracto repletis, basilaribus pluribus quadratis. Pedunculus elongatus. Theca cylindracea subclavata, erecta, sporangio ovali, collo dimidio breviore, operculo conico, peristomii interni membrana erosa, fere ad dentium externi medium producta.

Bryum crinitum, *Mitt. in Hook. Kew Journ.* iii. 56.

Hab. Mexico, prope Xalapa, *Deppe et Schiede* (*Acidodontium Kunthii*, Hornsch.). Andes Quitenses, Quito, *Jameson*; Lucmas et Guataxi, *Spruce.*

Caulis $\frac{1}{4}$–$\frac{1}{2}$ unciam altus. Folia $\frac{1}{2}$ lineam longa; comalia fere lineam attingentia, viridia, seniora fusca. Pedunculus $\frac{1}{2}$-uncialis.

Specimina Andina a Mexicanis pilo breviore tantillum discrepant.

3. B. CAPILLIFOLIUM (*C. Müll. Syn.* ii. 578). Dioicum, compacte cæspitosum, radiculis rufis tomentosum; caulis innovationibus dichotome ramosus, innovationibus plurimis sterilibus. Folia conferta, læte viridia, nitida, madore patentia, sicca imbricata et subcontorta, ramea obovalia et subspathulata, comalia ovali-oblonga et lato-lanceolata, omnia concava, margine integerrima, ex apice obtuso in apiculum piliformem producta, nervo tenui rufescente; perichætialia lanceolata, tenuissime acuminata. Theca in pedunculo recto unciali erecta, oblongo-pyriformis et clavata, brevicolla, opaca, ore angustata, annulata, operculo conico minuto; pe-

ristomii externi dentes lanceolati, obtusi, dense articulati, crocei, humore patentes, interni membrana lutescens, libera, dentibus dimidio brevior, subplicata, margine inæquali nec dentato.

Hab. Mexico, Huatusco, Donaguia aliisque locis, *Liebmann.*

Planta mascula fertili similis, floribus capituliformibus, foliis perigonialibus ovatis evanidinervibus in capillum productis.—*C. Müll. l. c.*

4. B. HORNSCHUCHIANUM (*Mart. Ic. Crypt. Bras.* t. 20. f. 4). Dioicum, cæspitosum. Folia densiuscula, patentia, ovalia, planiuscula, apicibus piliferis, nervo infra apicem evanido carinata, marginibus flexuosis recurvis, limbo e serie tripla cellularum elongatarum conflato, apice subserrulato, cellulis ovali-hexagonis utriculo repletis, basi ad latera quadratis; comalia longiora, erecta, marginibus reflexis. Theca in pedunculo elongato erecta, sporangio ovato, collo brevi angusto, operculo conico, peristomii interni membrana ad $\frac{1}{3}$ dentium externi longitudinis producta.

Hab. Brasilia, in prov. Minarum passim, *Martius*; Sierra dos Orgaos, *Gardner*, n. 32.

Caulis 3–6 lineas altus, basi radiculosus. Folia caulina vix lineam longa, viridia, tenera, flexuosa. Pedunculus $\frac{1}{2}$-uncialis. Theca satis magna, cum collo 2-linearis.

5. B. HETERONEURON (*Spruce*). Dioicum; cæspites pulvinati, laxiusculi, virides, inferne rubelli; caulis innovando-fastigiato-ramosus, inferne radiculosus. Folia laxiuscula, patula, plus minus recurva, lanceolata, tenui-cuspidata, basi rectangularia, subcarinata, nervo tenuiusculo cum apice desinente vel plus minus piliformi-producto, raro ad cuspidis basin desinente, margine subrecurvo secus apicem subdenticulato, cellulis majusculis chlorophyllosis rhomboideis, basilaribus paucis rectangularibus, marginalibus uni- biseriatis angustis; perichætialia externa caulinis majoribus longiora, interiora (propria) angustiora, lanceolato-subulata, sensim acuminata, excurrentinervia, cellulis angustissimis. Theca in pedunculo primitus flavescente erecta vel parum inclinata elongato-pyriformis, microstoma, matura albescens, demum badia, late annulata, operculo alto convexo vel subcuspidato apice subdepresso et sæpius mamillato secundo convexo-conico concolori, peristomio parvo pallido, dentibus externis brevibus lineari-lanceolatis cuspidatis brevi hamato-incurvis latissime trabeculatis, sutura conspicua, peristomio interno æquilongo vix ad medium fisso, dentibus brevibus (Bartramioideis) haud cuspidatis, cellulis membranæ basilaris intercalaribus binis ternisve, in cilia haud productis.

Hab. Andes Quitenses, Quito ad arbores frequens (9000–11,000 ped.), *Spruce*, n. 368; Titaicun (10,000–11,000 ped.), *Spruce*, n. 369; Pichincha (10,000–11,000 ped.), *Spruce*, n. 370.

Caulis sub-$\frac{1}{2}$-uncialis. Folia ·105 × ·33 vel minora. Pedunculus ·4. Theca ·15.

6. B. CONSIMILE (*Mitt.*). Dioicum, cæspitosum; caulis brevis, radi-

culosus. Folia comalia subrosulata, patentia, externa obovata acuta, interna longiora obovato-spathulata planiuscula, nervo in mucronem piliformem excurrente, marginibus cellulis seriebus tribus angustis cartilagineis circumductis, superne serrulatis, cellulis basi oblongis rectangulatis, superioribus rotundo-ovalibus prosenchymaticis. Theca in pedunculo elongato erecta, ovali-elliptica, collo brevi, operculo conico acuminato obtuso, peristomii interni membrana fere ad dentium medium exserta, processibus ciliisque nullis.

Hab. Andes Quitenses, in sylva Canelos, *Spruce,* n. 350.

Caulis 2–3-linearis. Folia 1½-linearia, viridia, dein rufescentia. Pedunculus 1–4-linearis, ruber. Theca operculo colloque incluso 2-linearis, cinnamomea.

Habitu *A. nipalensis* Hook. (*Brachymenii*) formis minoribus simillimum.

7. B. MEXICANUM (*Mont. in Ann. Sc. Nat.* ser. 2. ix. 54). Folia rosulatim congesta, patentia, ovalia, acuminata, concava, nervo in mucronem recurvum excurrente, margine superne minute serrulata, limbo nullo, cellulis parvis ovali-hexagonis, basilaribus pluribus quadratis. Theca in pedunculo elongato, sporangio cylindraceo, collo tumidulo dimidio breviore.

Hab. Mexico, *Andrieux,* n. 29.

Caulis ½ unciam altus, iterum iterumque innovationibus ramosus. Folia lineam longa, luteo-viridia, in rosulis gemmaceis clausis congesta. Pedunculus ¾-uncialis. Theca 1½-linearis.

Habitu quoad foliorum imbricationem *Bryo campylothecio* Tayl. simile.

8. B. IMBRICATIFOLIUM (*C. Müll. Syn.* ii. 578). Dioicum, *B. capillifolio* simillimum, sed cæspites densiores, caulis humilior, folia densiora, siccitate arctius imbricata latiora, in innovationibus sterilibus ovata, nervo sub apice evanido vel rarius subexcurrente. Theca curvula; peristomii dentes majores, densius articulati, interioris membrana externo adnata, sporis majoribus.

Hab. Mexico, in summo Pico de Orizaba, *Liebmann.*

9. B. REGNELLII (*Hampe in Linnæa,* xxii. 582; *C. Müll. Syn.* ii. 581). Dioicum, laxe cæspitosum, subhumile, virens, basi fusco-tomentosum subsimplex; caulis firmus, inferne nudus, fertilis apice brevissime fastigiatim divisus, strictus. Folia caulina siccitate contorta, madore erecto-patula, plana vel parum cava, obliqua, late oblongo-lanceolata, ad medium paulisper ovaliformia, obtuse acuta, nervo flavente carinato subtenui excurrente vel evanido percursa, margine basi revoluta, superne e cellularum flavidarum seriebus 1–2 veluti marginata et serrulata, e cellulis majusculis rhombeis utriculo primordiali valde repletis reticulata; perichætialia juniora ligulato-obtusa, subintegra.

Hab. Brasilia, prov. Minarum Generalium, prope Caldas, *Regnell,* n. 375.

B. Hornschuchiano haud dissimile, notis laudatis facile discernibile.—*C. Müll. l. c.*

10. B. **Klotzschii** (*Schwægr.* t. 310). Dioicum, erectum, apice fastigiato-ramosum. Folia erecta, subappressa, oblonga, superne latiora, carinato-concava, nervo crasso flavo excedente crasse et breviter mucronata, margine apice cellulis minoribus veluti marginantibus prominentibus repando-denticulata, e cellulis rhomboidalibus pellucidis utriculo primordiali instructis areolata. Theca in pedunculo elongato flavo strictiusculo, ovali-cylindrica, erecta, flavida, operculo concolori conico brevi et collo brevissimo prædita.—*C. Müll. Syn.* i. 319 (B. Sellowianum).

Hab. Brasilia, *Sellow.*

Peristomium ex icone Schwægrichenia dentibus pallidis, internum.

11. B. **Martianum** (*C. Müll. Syn.* i. 320). Densiuscule cæspitosum; caulis erectus apice fasciculatim et breviter ramosus, superne nudus. Folia erecto-patentia, siccitate appressa, subtorta, inferiora remota oblongo-lanceolata acuminata canaliculata, superiora lato-ovalia in acumen producta, nervo crasso rufescente supra folii medium dissoluto, subquadrate et laxissime areolata; perichætialia majora oblonga, margine involuta, intima duplo minora angustiora lanceolata plana amœne viridia. Theca erecta, crassa, ovata, ore angusto; peristomii dentes externi humiditate erecto-patuli, siccitate conniventes, lanceolato-lineares, solidi, articulati, subnodosi, inferne ferruginei, superne albidi; membrana interna albida, dentibus exterioribus dimidio brevior, apice dilacerata, in processus 16 irregulares producta.—*C. Müll. l. c.*

Hab. Brasilia, in Minis Generalibus ad cortices arborum, *Martius.*

B. Hornschuchiano simile.—*C. Müll. l. c.*

Sect. 2. *Peromnion*, Schwægr. iii. 1.

Musci caulibus brevibus vel elongatis. Folia lata, marginata. Thecæ cylindraceæ, operculis conicis vel subulatis. *Habitatio* ad arbores.

12. B. **Jamesoni** (*Tayl. in Hook. Lond. Journ.* vii. 282). Caulis plus minus elongatus, radiculosus. Folia patentia, æqualia vel subrosulatim congesta, comalia oblongo-elliptica, acuminata, planiuscula, nervo angusto breviter excurrente, marginibus ad latera reflexis, apicem versus serrulatis, limbo cartilagineo e cellularum seriebus tribus formato circumductis, cellulis elliptico-hexagonis utriculo contracto repletis. Theca in pedunculo elongato, cylindracea, operculo subulato, peristomii dentibus angustis, interni precessibus rudimentariis in membrana ad dentium medium exserta impositis.

Leptotheca speciosa, *Hook. et Wils.*

Hab. Ins. Jamaica, ex *Herb. Brown.* Andes Quitenses, Quito, *Jameson*; in montibus Chimborazo et Pallatanga (6000 ped.), *Spruce*, n. 347; in monte Tunguragua et sylva Canelos (4000 ped.), *Spruce*, n. 346. Andes Peruvianæ, in monte Campana, ad truncos (4000 ped.), *Spruce*, n. 348, 349.

Caulis 1–2-uncialis, inferne radicellis rufo-fuscis valde tomentosus. Folia superiora 2-linearia, viridia, inferiora pallide ochracea, sicca contracta. Pedunculus uncialis. Theca 2-linearis.

13. B. RADICULOSUM (*Schwægr.* t. 250). Caulis brevis. Folia rosulatim disposita, patentia, comalia exteriora subspathulato-elliptica acuminata, nervo excurrente piliformi, marginibus ad latera anguste reflexis, superne serrulatis, limbo angusto e cellularum elongatarum seriebus tribus composito marginata, cellulis ovali-hexagonis utriculo contracto repletis, interna subulata. Theca in pedunculo elongato erecta, sporangio cylindraceo, collo brevi, operculo conico, peristomii interni processibus angustis, quam dentes externi brevioribus, in membrana ad ¼ dentium longitudinis exserta impositis.

Hab. Brasilia, *Beyrich*; Rio, *Heward*; in summo Sierra dos Orgaos, *Gardner*, n. 38, *Lobb*; Parana in Serra inter Antonina et Corritiba ad ligna (2200 ped.), *Weir*, n. 17.

Caulis 3–12 lineas altus. Folia comalia 2-linearia, viridia, sicca appressa contracta subtorta. Pedunculus uncialis, ruber. Theca cum collo lineam parum excedens.

14. B. WRIGHTII (*Sulliv. in Proceed. Amer. Acad.* 1861, 281). Caules inferne tomento radiculoso denso intertexti. Folia rosulatim congesta, patentia, late obovata, acuta, nervo in apiculum recurvum excurrente, marginibus ad latera recurvis, apicem versus parum serrulatis, limbo angusto e cellularum seriebus tribus composito marginata, cellulis ovali-hexagonis utriculo contracto repletis. Theca in pedunculo elongato, cylindraceo-elliptica, operculo subulato, peristomii dentibus angustis elongatis, superne articulationibus contractis, minute papillosis, interni membrana brevi; annulus compositus.

Hab. Ins. Sti. Vincentis in umbrosis montis St. Andrew, *Guilding in Herb. Hooker.* Cuba, ab ligna putrida in sylvis densioribus, *Wright*, n. 53.

Caulis 3–6 lineas altus. Folia 1½ lineam longa, lineam lata, viridia fuscescentia. Pedunculus 8 lineas longus. Theca 1¼-linearis.

15. B. MAGELLANICUM (*Sulliv. in Hook. Kew Journ.* ii. 316). Humile, hermaphroditum, laxe cæspitosum, innovando-ramosum, caulibus ramisque apice congesto-foliosis, inferne subaphyllis radiculosis. Folia erecto-patentia, laxe reticulata, lanceolata, margine reflexiuscula, lenissime submarginata, apice minutissime denticulata, costa basi valde incrassata longe excurrente aristata. Capsula erecta, oblongo-cylindrica, longicolla, microstoma, annulata, peristomio pohlioideo, operculo conico-hemisphærico apiculato.

Hab. Fuegia, Terra del Fuego, *Amer. Explor. Expedition.*

Sect. 3. *Acidodontium*, Schwægr. ii. pars 2. 152.

Musci caulibus inferne tomento intertextis, ad margines cæspitum procumbentibus subrepentibus. Folia lata, sæpius marginata. Thecæ magnæ, clavatæ, operculis brevibus. Flores dioici. *Habitatio* ad arbores.

16. B. SEMINERVE (*Hook. et Wils. in Hook. Lond. Journ.* vii. 451, t. 16 J). Laxe cæspitosum, inferne radiculosum. Folia patentia, ovalia, in acumen elongatum subulatum flexuosum producta, concava, nervo infra acumen evanido, marginibus planis integerrimis basi reflexis, limbo nullo, cellulis parvis ellipticis, basilaribus paucis quadratis; comalia duplo longiora, oblongo-lanceolata, subulato-acuminata, marginibus recurvis. Pedunculus elongatus. Theca inclinata horizontalisve, sporangio oblongo, collo dimidio breviore, operculo convexo conico, peristomii dentibus supra medium subulato-angustatis, interni membrana ad medium usque dentium longitudinis, processibus brevibus fissis, segmentis divaricatis.

Hab. Andes Quitenses, Quito, *Jameson.* Ins. Jamaica, *Herb. Brown.*

Caulis $\frac{1}{2}$–1 unciam altus, ruber. Folia caulina lineam longa, lutea, nitida, sicca appressa; comalia duplo longiora. Pedunculus 1–1$\frac{1}{2}$ unciam longus, ruber. Theca fusca, cum collo 3 lineas longa.

17. B. EXALTATUM (*Spruce*). Cæspites densi; caules valde innovando-ramosi, ramuli breviusculi, densifolii, inferne radiculosi. Folia patentia, siccando appressa, apice solo subtorta, ovali-lanceolata, apice subacuminata, nervo tenui filiformi producto, concava, margine late recurviuscula, secus apicem subdenticulata, cellulis majusculis, basilaribus rufis subquadratis, cæteris elongatis hexagonis subchlorophyllosis, marginalibus angustioribus biseriatis; perichætialia longiora, sensim acuminata. Theca in pedunculo rubro horizontalis, pyriformi-clavata, rufa, sporangio elongato ovali, collo æquilongo siccando constricto, operculo paraboloideo concolori apice deplanato mamillato, peristomio *B. ramicolæ* sed breviore, externo dentibus subito cuspidatis trabeculatis, interno vix ad medium fisso, ciliis obsoletis, annulo composito. Plantæ masculæ cum fœmineis mixtæ.

Hab. Andes Quitenses, in monte Tunguragua in arborum ramulis supremis (8000 ped.), *Spruce,* n. 366; Gusunag in valle Alausi (8000 ped.), *Spruce,* n. 367.

Caulis 6–9-lineares. Folia ·065 × ·02. Pedunculus sesquiuncialis. Theca ·3.

18. B. SPRUCEI (*Mitt.*). Dioicum, cæspitosum; caulis rigidus, radiculosus. Folia patentia, sicca parum mutata, elliptico-lanceolata, planiuscula, apicem versus subulato-acuminata, nervo ultra medium evanido, margine tenui cartilagineo apice serrulato, cellulis basi paucis rectangulatis, superioribus ellipticis; perichætialia longiora, apicibus attenuatis. Theca in pedunculo elongato erecta horizontalisve, sporangio oblongo,

collo angusto elongato, operculo hemisphærico apice depresso, peristomii dentibus rubris, apice tenui subulatis, intus trabeculatis inflexis, processibus fissis, laciniis divergentibus ciliisque obsoletis in membrana ad dentium medium producta insidentibus.

Hab. Andes Quitenses, Lucmas in valle Alausi (5000 ped.), *Spruce*, n. 361; Tunguragua (7000 ped.), *Spruce*, n. 362; Llalla (9000 ped.), *Spruce*, n. 363; Pichincha (10,000 ped.), *Spruce*, n. 364; Pallatanga in Andium dejectu occidentali (6000–7000 ped.), *Spruce*, n. 365.

Caulis fertilis ½-uncialis. Folia 1½-linearia longioraque, pallide viridia, absque nitore.

Habitu staturaque *B. seminervi* simile, sed folia minus excavata, etiam in ramis gracilioribus laxe patentia, cellulis amplioribus areolata, margineque tenui sæpe colorato superne serrulato.

19. B. RAMICOLA (*Spruce*). Dioicum; cæspites magni, densi; caules innovationibus ramosi, inferne radicularum ope dense arcte colligati. Folia densiuscula, erecto-patentia, undulata, siccando subappressa, crispato-undulata, vix apice subtorta, anguste oblongo-lanceolata, tenui-acuminata, nervo in acumen obscure desinente, cellulis majusculis, paucis basilaribus parenchymaticis, cæteris prosenchymaticis, marginalibus apicalibusque badiis angustis, parietibus crassis, illis uniseriatis; perichætialia longiora, angustiora, acumine piliformi obsolete denticulato, nervo fere percurrente. Theca in pedunculo longissimo rubro, pyriformi-clavata, inclinata, subhorizontalis, sporangio elongato-ovali, collo æquilongo, siccando constricta, stomatibus valde prædita subsymmetrica, operculo paulo rubescente paraboloideo, apice valde depresso, mamilla centrali, annulo composito revolubili, peristomii dentibus externis rufescentibus subulatis sensim acuminatis hamatis dense latissime trabeculatis, sutura inconspicua, internis æquilongis incurvis ad medium fissis, dentibus e cruribus duobus latis anguste acuminatis dissite trabeculatis divaricatis (Bartramioideis), cellulis membranæ intercalaris triseriatis, in ciliolum unicum brevissimum obsoletumve productis.

Hab. Andes Quitenses, in sylva Canelos, ad arborum ramulos (4000 ped.), *Spruce*, n. 356.

Caulis ½-uncialis uncialisve. Folia 1½-linearia. Pedunculus 1½-uncialis et longior. Theca fere ½-uncialis.

20. B. MEGALOCARPUM (*Hook. in Kunth Syn. Pl. Æq.* 59). Cæspitosum, inferne radicellis intertextum. Folia patentia, ovalia ellipticaque, in acumen subulatum piliforme remote denticulatum producta, nervo infra acumen v. in acumine ipso percursa, marginibus inferne reflexis, limbo angusto e seriebus cellularum angustissimarum duabus conflato circumducta, superne minute remote serrulata, cellulis oblongis utriculo repletis; comalia longiora, interiora subulata. Theca in pedunculo elongato horizontalis, sporangio ovali-oblongo, collo angusto subæquilongo, operculo hemisphærico mamillato, peristomii dentibus sensim angustatis, interni processibus fissis, segmentis elongatis divaricatis, ciliis brevissimis rudimentariis interpositis.

Acidodontium Kunthii, *Schwægr.* t. 196.

Hab. Andes Bogotenses, ad viam inter Tipaquira et Pacho (8000 ped.), in arborum humiliorum ramis, *Weir,* n. 186. Andes Quitenses, inter Tolcam et Quito, *Humboldt et Bonpland.*

Caulis uncialis. Folia lineam longa, mollia, intense viridia, sicca appressa subtorta, comalia 1½-linearia. Pedunculus uncialis, ruber. Theca fusca, 2½ lineas longa.

21. B. RHAMPHOSTEGIUM (*Hampe in Ann. Sc. Nat.* ser. 5. iv. 339, Cladodium). Humile, diviso-ramosum, dense cæspitosum, olivaceum; caulis fructifer brevis, ramis subfastigiatis 2–3-linearibus circumdatus. Folia ramorum laxe imbricata, accumbenti-torta, humida explanata caviuscula, basi decurrentia, elliptico-ovata, acuminata, margine limbo crasso lutescente circumdata, supra medium remote dentato-serrata, nervo crasso lutescente percursa et brevicuspidata, cellulis basilaribus pentagono-oblongis, versus apicem dense aggregatis minoribus, tota folia rufescenti-diaphana. Seta gracilis, semiuncialis vel paulo longior, erecta. Theca pyriformis, horizontalis, operculo umbonato-conico, brevirostro; dentibus peristomii externi lanceolato-subulatis aurantiacis, apice pallidis et incurvis, linea media deficiente modice trabeculatis, interni membrana flavida plicata, producta, in crura carinata brevia secedente, ciliis ....

Hab. Andes Bogotenses, Fusagasuga (1900 metr.), *Lindig.*

Acidodontio subrotundo H. & W. proximum.—*Hampe, l. c.*

22. B. SUBROTUNDUM (*Tayl. in Hook. Lond. Journ.* v. 56; *Hook. et Wils. l. c.* t. 16 H). Caules inferne radiculis in cæspitem densum intertexti. Folia densiuscula, erecto-patentia, ovali-lanceolata, acuminata, caviuscula, nervo in pilum flexuosum denticulatum producto, marginibus ubique planis apicem versus serrulatis, limbo e cellularum seriebus tribus angustis circumductis, cellulis ovali-hexagonis, utriculo contracto repletis, basi pluribus quadratis pellucidioribus; comalia majora oblonga, interna subulata. Theca in pedunculo elongato inclinata, sporangio globoso, collo pyriformi dimidio breviore, operculo hemisphærico nitido, peristomii interni membrana erosa, ad medium usque dentium externi longitudinis producta.

Bryum Taylori, *C. Müll. Syn.* i. 264.

Hab. Andes Quitenses, Quito, *Jameson*; Guayrapata ad fruticum ramulos (9000 ped.), *Spruce,* n. 357; Pichincha (10,000–11,000 ped.), *Spruce,* n. 358; Pangor Cordilleræ occidentalis (10,000 ped.), *Spruce,* n. 359; in ascensu Tiu-púllu, secus Quito ad arbores (10,000 ped.), *Spruce,* n. 360.

Caulis 3-6 lineas altus. Folia ½ lineam longa, viridia fuscescentia, nervis excurrentibus nitidis. Pedunculus ruber, 1-1½-uncialis. Theca sicca, infra os contracta, cum collo lineam longa, fuscescens.

Sect. 4. *Eubryum.*

Musci caulibus brevibus vel elongatis erectis vel rarius ramulis subrepentibus. Folia per caulis longitudinem æqualia, vel versus apicem florentem sensim magnitudine increscentia, in comam rosulatim congesta. Thecæ magnæ, clavatæ. *Habitatio* ad terram et rupes, etiam in arboribus.

Subsect. 1. *Dicranobryum*, C. Müll. Syn. i. 309.

Musci caulibus brevibus gracilibus. Folia parva. Thecæ subglobosæ, clavatæ vel fusiformes. Florescentia dioica. *Habitatio* ad terram.

23. B. **Gilliesii** (*Hook. Bot. Misc.* i. 3, t. 2). Humile, cæspitosum. Folia patentia, obovata, obtusiuscule acuta obtusave, paululum concava, nervo infra apicem evanescente, marginibus integerrimis inferne recurvis, limbo nullo, cellulis oblongo-hexagonis; comalia ovalia, acuta, marginibus recurvis. Theca in pedunculo brevi horizontalis, operculo hemisphærico obtuso, peristomii interni processibus angustis, dentium externi longitudine, in membrana ad ¼ eorum longitudinis exserta insidentibus, ciliis nullis.

B. orthodontioides, *C. Müll. Syn.* i. 293.

Orthodontium julaceum, *Schwægr.* t. 188.

Hab. Fl. Negro supra saxa in terra inundata, *d'Orbigny*. Andes Chilenses, Mendoza, *Gillies*.

Caulis 3-linearis. Folia ½ lineam longa, viridia, tenera, superiora obtusiora. Pedunculus 3-linearis. Theca lineam longa.

24. B. **Wilsoni** (*Mitt. in Hook. Kew Journ.* iii. 55). Folia patentia, inferiora elliptico-lanceolata, acuta, integerrima, nervo ultra medium evanido, cellulis elongate oblongis pellucidis; comalia triplo longiora, anguste linearia, nervo lato crassso tertium folii latitudinis occupante percursa, marginibus apice serrulatis. Pedunculus elongatus. Theca erecta, pyriformis, operculo conico, peristomii dentibus latiusculis, interni processibus angustis æquilongis, in membrana ad dentium exterioris medium exserta insidentibus.

Hab. Andes Quitenses, Quito, *Jameson*; ad caput fl. Guano (10,000 ped.), *Spruce*, n. 253; Pallatanga (6000 ped.), *Spruce*, n. 254; Baños in fontibus calidis (7000 ped.), *Spruce*, n. 255, 256; Ambato (8700 ped.), *Spruce*, n. 257; ad fl. Pastusa (5000 ped.), *Spruce*, n. 258; Machachi prope Quito (9000 ped.), *Spruce*, n. 259.

Caulis 1–3-uncialis, inferne radicellis rufis. Folia superiora luteo-viridia, subnitida, ½ lineam longa, comalia fere 2-linearia. Pedunculus 1–1½-uncialis, ruber. Theca cum collo lineam longa, fusca.

25. B. **Meyenianum** (*Hampe in Linnæa*, xi. 278, Webera). Dense

cæspitosum, humillimum, ramosum. Folia latiuscule ovalia, concava, parva, subacuminata, integerrima, pellucido-tenera, nervo tenui ante apicem evanido; perichætialia intima angustiora longiora acuminata, nervo purpureo. Theca in pedunculo longiusculo tenui, clavata, longicolla, angustissima, parva, arcuata, erecta, operculo conico brevissimo; peristomii dentes externi e basi angusta remote trabeculata lutea brevi subito longe subulati, læves, hyalini, articulati; membrana interna tenerrima vix conspicua fugacissima, plicata, apice valde irregularis.

Hab. Chili, *Meyen.*

Ex habitu *Mielichhoferias* in memoriam redigens, peristomio externo *Orthodontiis* simile, interno autem ad *Brachymenium* pertinens.—*C. Müll. l. c.*

26. B. ELLIPTICUM (*Mitt.*). Humile, cæspitosum. Folia patentia, laxe imbricata, ovata, acuminata, acuta, concava, integerrima, nervo in apice evanido, cellulis basi ad angulos paucis oblongis parallelogrammicis, superioribus longioribus, prosenchymaticis teneris; perichætialia magis acuminata. Theca in pedunculo elongato, elliptica, inclinata, operculo breviter conico, peristomii dentibus pallidis, paulo supra basin subulatis angustis, interni membrana —— ?

Hab. Chili, Colchaque, *Herb. Hooker.*

Caulis brevissimus, innovationibus longioribus. Folia pallida, apicibus exstantibus. Pedunculus uncialis.

Habitu *B. fusifero B. Harveyano*que simile, sed foliis diversis. *B. Meyeniano* affine, an eadem species?

27. B. DIDYMODONTIUM (*Mitt.*). Caulis brevis, innovationibus longioribus. Folia patentia, elliptico-lanceolata, concava, nervo in apice evanido, marginibus subrecurvis apicem versus serrulatis, cellulis basi paucis parallelogrammicis rhombeis, superioribus elongatis angustis pellucidis; perichætialia longiora, conformia. Theca in pedunculo prælongo rubro, ovalis, pyriformis, suberecta inclinatave, ore parvo, operculo convexo mamillato, peristomii dentibus brevibus obtusiusculis punctulatis, processibus æquilongis angustis, in membrana exserta impositis.

Hab. Mexico, *Beechey in Herb. Hooker.*

Caulis 2–3 lineas altus; rami æquilongi. Folia inferiora destructa, superiora pallide viridia, inferne fuscescentia. Pedunculus 2-uncialis. Theca cinnamomea. Peristomium minutum, inclusum; dentes per paria secedentes, an normales?

28. B. GLOBOSUM (*Mitt.*). Cæspitosum; caulis brevis, rigidus. Folia erecto-patentia, lanceolata, subulata, rigida, nervo crasso pungente excurrente, integerrima, cellulis fere omnibus parvis rhombeis; perichætialia conformia. Theca in pedunculo elongato inclinata, globoso-ovalis, collo brevissimo, ore parvo, operculo hemisphærico, peristomii interni processibus in membrana ad dentium medium exserta impositis.

Hab. Andes Quitenses, in sylva Canelos loco Pueblo de Los Jibaros (3000 ped.), *Spruce*, n. 312.

Caulis ½ unciam altus. Folia lineam longa, rigida. Pedunculus 1½ unciam longus, gracilis.

Habitus *B. Montagneani* Indiæ orientalis, sed majus et inter Americanas species distinctissima.

29. B. FUSIFERUM (*Mitt.*). Cæspitosum, humile. Folia patentia, ovali-elliptica, acuta, nervo sub apice evanido, marginibus apicem versus serrulatis, cellulis basi paucis oblongis parallelogrammicis, superioribus longioribus laxis prosenchymaticis, marginalibus angustioribus; perichætialia late lanceolata. Theca in pedunculo elongato rubro, subelliptica, fusiformis, erecta, siccitate sub ore contracta, operculo breviter conico, peristomii dentibus pallidis remote articulatis, processibus æquilongis marginibus irregularibus, in membrana ad tertium dentium longitudinis exserta impositis; annulus compositus.

Hab. Andes Quitenses, Huambato in aggeribus humidis (9500 ped.), *Spruce*, n. 351; Titaicun (11,000 ped.), *Spruce*, n. 352; Pichincha (11,000 ped.), *Spruce*, n. 353; Chimborazo (10,000 ped.), *Spruce*, n. 354.

Caulis brevissimus, lineam altus, innovationibus brevibus ramosus. Folia laxe imbricata, pallide rufescentia. Pedunculus unciam longus. Theca cinnamomea, 1½-linearis.

Habitu *B. Harveyano* Hook. (Indiæ orientalis) simile.

30. B. SMARAGDINUM (*C. Müll. Syn.* ii. 576). Cæspitosum; caulis brevis, innovationibus plus minus elongatis. Folia erecto-patentia, concava, imbricata, suborbiculari-ovata, nervo in mucronem excurrente, integerrima, cellulis basi ad angulos pluribus quadratis, superioribus brevibus rhombeis pellucidis; perichætialia ovata, acuta. Theca in pedunculo gracili rubro, globosa, urceolata, basi turgida papulosa, ore parvo, operculo conico, peristomii interni processibus dentium longitudine, ciliis brevioribus nullisve, in membrana ad tertium dentium longitudinis exserta impositis.

Hab. Venezuela, Caracas (4000 ped.), *Funck et Schlim*, n. 362. Andes Quitenses, Baños (6000 ped.), *Spruce*, n. 355.

Caules in speciminibus Spruceanis vix lineam alti, ramis brevissimis divisi, in Venezuelanis autem ½-unciales. Folia superiora albescenti-viridia, inferiora rufescentia. Pedunculus vix semiuncialis.

Habitus *B. Weisiæ* Harv. (Indiæ orientalis); color tamen foliorum *Bryo argenteo* similius.

31. B. PAPILLOSUM (*C. Müll. Syn.* i. 326). Caulis gracilis. Folia erecto-patentia, incurva, lanceolata, acuminata, nervo infra apicem evanido, marginibus superne subserrulatis, basi recurvis, longe decurrentibus, limbo nullo, cellulis elliptico-hexagonis; comalia duplo longiora, elongate lanceolata, marginibus reflexis. Theca in pedunculo elongato horizontalis pendulave, sporangio globoso-ovali, collo brevi, ubique cellulis papulosis obtecta; operculum conicum obtusum; peristomium dentibus brevibus

pallidis teneris, internum processibus angustis subfiliformibus, in membrana ad $\frac{1}{3}$ usque dentium longitudinis exserta impositis.

Hab. Ins. Jamaica, *M'Fadyen*; Venezuela, prov. Caracas ad Galipan (4000 ped.), *Funck et Schlim*, n. 346. Andes Bogotenses, locis plurimis (1200–2700 metr.), *Lindig*. Andes Quitenses, Quito ad aggeres et in præruptis humidis (9500–11,000 ped.), *Spruce*, n. 373; Antombos ad fl. Pastasa super. (5000 ped.), *Spruce*, n. 374; Guayrapata (9000 ped.), *Spruce*, n. 375; Pichincha (10,000 ped.), *Spruce*, n. 376.

Caulis 2–6 lineas altus. Folia $\frac{1}{2}$ lineam longa, viridia. Pedunculus uncialis, capillaris, ruber. Theca lineam longa.

Subsect. 2. *Webera*, Hedw.

Musci caulibus brevibus, rarius elongatis, innovationibus e basi egredientibus ramosis. Folia parva, ut plurimum lanceolata, comalia longiora et angustiora, cellulis elongatis areolata, nitida. Thecæ sæpe elongatæ. *Habitatio* ad terram et in rupibus.

32. B. SPECTABILE (*C. Müll. Syn.* ii. 583). Paroicum; caulis brevis. Folia anguste ovato-lanceolata, marginibus superioribus serrulatis, nervo sub apice evanido, cellulis anguste ellipticis; comalia duplo longiora, linearia, acuta, nervo crassiusculo excurrente, marginibus reflexis apice serrulatis, cellulis elongatis angustis. Pedunculus elongatus. Theca horizontalis, sporangio elongato, anguste cylindracea subincurvata, collo subæquilongo curvato, peristomii interni processibus ciliisque tribus æquilongis in membrana ad $\frac{1}{3}$ dentium exterioris longitudinis exserta impositis.

Hab. Costa Rica (5000–8000 ped.), *Œrsted*; Guatemala, Volcan de Fuego, *Godman et Salvin*. Andes Bogotenses, ad viam ad summitatem montis Serrate prope Bogota ducens (8700 ped.), *Weir*, n. 219; in locis plurimis (2500–3200 metr.), *Lindig*.

Caulis 2-linearis. Folia $\frac{3}{4}$ lineam longa, comalia 2-linearia, flavo-viridia, haud nitida. Pedunculus uncialis. Theca cum collo 3-linearis.

Species *B.* (*W.*) *elongato* similis.

33. B. SUBCURVATUM (*Mitt.*). Humile; caulis gracilis. Folia erecto-patentia, appressa, lanceolata, nervo concolori in apice vel infra apicem evanido, marginibus superioribus serrulatis, cellulis angustis elongatis, basi ad angulos paucis subquadratis; comalia ovata acuminata, interna lanceolato-subulata. Theca in pedunculo elongato gracillimo pendula, extus subcurvata, sporangio oblongo, collo dimidio breviore crassiusculo, peristomii interni processibus in membrana ad $\frac{1}{3}$ dentium exterioris longitudinis exserta impositis.

Hab. Andes Bogotenses, ad viam ad summitatem montis Serrate prope Bogota ducens (8700 ped.), *Weir*, inter n. 219.

Caulis 1–1$\frac{1}{2}$ lineam altus. Folia $\frac{1}{6}$ lineam longa, aurea, nitida, comalia duplo latiora. Pedunculus fere uncialis, gracilis, ruber. Theca cum collo lineam longa.

34. B. PAUCIFOLIUM (*Hampe in Ann. Sc. Nat.* ser. 5. iv. 344). Humile, simplex, paucifolium, lutescens; caulis erectus, brevis, 3–5-linearis, comosus, laxe foliatus. Folia inferiora breviora, lanceolata, subplana, superiora elongato-lanceolata, margine revoluta, apice remote dentata, nervo crasso lutescente percursa, apiculata; perichætialia pauca minora subconformia, nervo apice evanido, minus dentata, cellulis basilaribus oblongo-pentagonis, cæteris elongatis in apice folii fere linearibus, tota folia lutescenti-diaphana. Seta vix semiuncialis, adscendens, flavescens, apice incurvata. Theca parva, angusta, oblongo-cylindrica, curvata, horizontalis, vetusta nutans, operculo umbonato-conico apiculato, peristomii dentibus pallidis externis lanceolatis integris, linea media deficiente leviter trabeculatis, diaphanis, interni cruribus latioribus carinatis æquilongis lato-lanceolatis subulatis pertusis, ciliis capillaribus elongatis interpositis.—*Hampe, l. c.*

Hab. Nova Granata.

Inter *Weberas* minima, *B. spectabili* minus et primo visu diversum.—*Hampe, l. c.*

No locality is given for this species.

35. B. INTEGRIDENS (*C. Müll. Syn.* i. 338). Gregarium; habitus *B. elongati.* Folia caulina e basi utrinque rotundata lanceolato-acuminata, nervo crassiusculo fuscescente excurrente breviter cuspidata, margine revoluta, apicem versus denticulata vel serrulata, haud nitida, mollia, angustissime areolata, viridissima; perichætialia intima multo minora, lato-lanceolata acuminata, excurrentinervia, teneriora, apice denticulata, inferne crenulata. Theca longiuscule pedunculata, elongato-cylindrica, angustissima, pallida, suberecta vel horizontalis, longicolla, operculo conico brevi aurantiaco; peristomii dentes externi lanceolato-subulati, angusti, pallidi, apice rugulosi, interni in membrana hyalina dimidio breviore angusti, subulati, omnino rugulosi, vix sulcati, haud hiantes, ciliis 2–3 brevibus irregularibus valde rugulosis fugacissimis interpositis.—*C. Müll. l. c.*

Hab. Mexico, *Ehrenberg.*

36. B. ŒRSTEDIANUM (*C. Müll. Syn.* ii. 583). Habitu *B. longicolli* simillimum, sed folia latiora, robustiora, basi laxissime reticulata, parum falcata. Theca maxime clavata, robustissima, geniculato-inclinata, deoperculata vetusta maxime corrugata, leptodermis, fusca, operculo conico brevissimo, in orificio minore posito; peristomii dentes interni parum latiores teneriores, ciliis ternis vel quaternis plus minus elongatis.

Hab. Costa Rica reg. montosa (5000–8000 ped.), *Œrsted.*

Quoad thecam robustam *B. crudo* haud dissimile.—*C. Müll. l. c.*

37. B. NUTANS (*Schreb.*; *Hedw. Musc. Frond.* i. t. 4). Folia inter se remotiuscula, patentia, lanceolata, acuta, nervo percurrente carinata, marginibus superioribus subserrulatis, cellulis elongatis; comalia longiora, erecta, marginibus recurvis. Theca ovali-pyriformis, in pedunculo elongato pendula, operculo satis magno conico, peristomii interni processibus

ciliis tribus æquilongis interpositis in membrana fere usque ad dentium longitudinis medium exserta impositis.

Hab. Fuegia, Hermite Island, *J. D. Hooker*; Chiloe insula, *Lobb.*

Caulis 3–6 lineas altus. Folia caulina lineam longa, comalia 1½-linearia, subnitida. Pedunculus unciam longus. Theca sporangio ovali, collo tumido dimidio breviore.

38. B. PYRIFORME (*Linn. Sp. Pl.* 1576; *Hedw. Musc. Frond.* i. t. 3, Webera). Folia inferiora parva, patentia, lanceolata, nervo latiusculo sub apice evanido, comalia triplo longiora, a basi erecta orbiculata longe subulata, canaliculata, patentia, marginibus superioribus serrulatis, nervo lato subulam fere totam occupante, cellulis anguste ellipticis. Pedunculus elongatus. Theca sporangio globoso, collo attenuato, leptoderma, nitida, operculo conico, peristomii dentibus luteis, teneris, interni processibus ciliisque æquilongis in membrana ad dentium medium exserta impositis.

Hab. Andes Quitenses, Quito (9700 ped.), *Spruce*, n. 251, et *Jameson*; Baños, Ambato, Guayrapata (6000–10,000 ped.), *Spruce*, n. 252.

39. B. CRUDUM (*Hedw. Musc. Frond.* i. t. 88, Mnium). Dioicum, rarius synoicum. Folia patentia, inferiora ovata ovali-lanceolataque, acuta, nervo infra apicem evanido carinata, marginibus apicem versus serrulatis, cellulis angustis elongatis subflexuosis, parietibus angustis; perichætialia anguste linearia, marginibus anguste reflexis. Pedunculus elongatus. Theca plus minus pendula, sporangio oblongo, cylindracea, collo ut plurimum tumido, operculo breviter conico, peristomii interni processibus ciliisque æquilongis, in membrana fere ad dentium exterioris medium producta insidentibus.

Hab. Mexico, Guatemala, Volcan d'Agua, *Godman et Salvin*; Fuegia in fretu Magellan, Sandy Point, *Lechler*.

Caulis ½–1 unciam altus, inferne nigricans. Folia sensim superne majora splendentia, nervo sæpe colorato.

40. B. LEPTODONTIUM (*Mitt.*). Caulis brevis, gracilis. Folia erecto-patentia, anguste lanceolata, acuminata, nervo rigido percursa, marginibus recurvis apice serrulatis, superiora longiora, cellulis angustissimis elongatis. Theca in pedunculo elongato nutans, sporangio ovato, cylindracea, collo dimidio breviore, operculo convexo conico, peristomii dentibus teneris inferne pellucidis, interni processibus filiformibus obscuris minute papillosis, in membrana ad dentium medium exserta impositis.

Hab. Andes Bogotenses, in descensu a Paramo ad Choachi (10,000 ped.), *Weir*, n. 218.

Caulis 2-linearis. Folia longiora lineam longa, nitida, aurea, nervis rubris. Pedunculus uncialis. Theca cum collo 1½ lineam longa.

B. (*W.*) *integridenti* affine, notis autem nonnullis discrepans.

41. B. POLYCARPUM (*Mitt.*). Caulis brevis. Folia erecto-patentia, comalia exteriora ovato-lanceolata, interiora longiora, omnia nervo infra apicem subtortum desinente, marginibus in longioribus reflexis apice

serrulatis, cellulis elongatis angustis. Thecæ 2–4, in pedunculis brevibus superne flexuosis inclinatæ horizontalesve, ellipticæ rectæ vel paululum extus curvatæ, sporangio ovali, cylindraceæ, collo subæquilongo parum contracto, siccæ subplicatæ, operculo convexo acuminato; peristomium breve, internum processibus angustis in membrana brevi impositis, ciliis nullis.

Hab. Guatemala, Volcan de Fuego, *Godman et Salvin.*

Caulis 3–4 lineas altus. Folia longiora lineam longa, straminea, vix nitida. Pedunculus 3–4 lineas longus. Theca rubro-fusca.

E thecæ forma et pedunculi brevitate *Mielichhoferiis* nonnullis simile.

42. B. ALBICANS (*Wahlenb. Fl. Lapp.*). Dioicum; caulis elongatus. Folia patentia subsecundave, oblongo-lanceolata, acuta, nervo sub apice evanescente, marginibus superioribus serrulatis basi decurrentibus, cellulis ellipticis; perichætialia superne angustata, marginibus reflexis. Pedunculus elongatus. Theca pendula, peristomii interni ciliis ut plurimum in unum coalitis, inter processus æquilongos in membrana usque ad dentium medium exserta insidentibus.

Bryum Wahlenbergii, *Bryol. Eur.* t. 17.

Hab. Andes Bogotenses, in collibus prope Bogota, ad rupes humidas (8500 ped.), *Weir.* Andes Quitenses, Pichincha (10,000 ped.), *Spruce,* n. 250, et *Jameson.*

Caulis $\frac{1}{2}$–1-uncialis, interdum longior. Folia albo-viridia, plus minus rubro tincta.

Subsect. 3. *Eccremothecium.*

Musci humiles vel elatiores, infra flores innovationibus ramosi. Folia æqualia vel in rosulas disposita, interdum lata, comalia latiora. Thecæ pendulæ. *Habitatio* ad terram in rupibus, etiam ad arbores.

43. B. GAYANUM (*Mont.*; *C. Müll. Syn.* i. 267). Compacte cæspitosum, elongatum, gracile, innovationibus gracilibus erectis dense foliosis ramosum, luteo-viride. Folia oblongo-acuminata, nervo flexuoso crasso ferrugineo basi purpurascente decurrente cuspidata, elongata, e basi usque fere ad apicem margine reflexa, e cellulis submagnis basi laxioribus superne utriculo primordiali tenerrimo flexuoso plus minus præditis areolata, apice obsolete denticulata; floralia intima multo minora, latiora, ovata, subito acuminato-cuspidata, excurrentinervia, crenulata. Theca in pedunculo stricto apice paulum inclinato nutans vel pendula, minuta, vix pyriformis, ovalis, pallida, ore non constricta, operculo depresso apiculato aurantiaco; peristomii dentes externi angustissimi subulati, interni in membrana fugacissima diaphana ciliiformes externis adglutinati fugacissimi.

Hab. Chili, *C. Gay.*

B. lacustri et *cernuo* (Europæ) proximum, sed notis illustratis præcipue peristomio distinctissimum.—*C. Müll. l. c.*

44. B. FLEXISETUM (*Mitt.*). Cæspites inferne radicellis intertexti. Folia inferiora erecto-patentia, late ovalia, concava, nervo in apiculo curvato percurrente, marginibus recurvis, limbo angustissimo e cellularum seriebus binis conflato circumductis, apice subserrulatis, cellulis oblongis hexagonis, basilaribus laxioribus; comalia longiora, late ovata, acuminata, marginibus reflexis. Theca in pedunculo elongato superne cygnicolli-flexo pendula, elliptico-oblonga, operculo conico acuminato; peristomium internum breve, dentibus externi adhærens.

Hab. Andes Quitenses, Quito, *Jameson*; in paludibus alpinis montium Cordovasto et Carguairazo (10,000–11,000 ped.), *Spruce*, n. 307.

Caulis 1–1½ unciam altus. Folia ¾ lineam longa, viridia, sicca appressa. Pedunculus ¾-uncialis, ruber. Theca 1¼ lineam longa.

B. pendulo affine, sed flexura pedunculi et thecæ forma magis cylindracea elliptica diversum.

45. B. PLATYPHYLLUM (*Schwægr.* t. 324, Pohlia). Compactum, humillimum, inferne nudiusculum, superne densissime foliosum, crasso-comosum, innovationibus terminalibus tenuissimis brevissimis nonnullis ramosum. Folia appressa, inferiora et innovationum lato-ovalia, concava, obtusa, brevissime acuminata, nervo crasso purpurascente ante apicem evanido, margine integerrimo revoluto, dense sed pellucide areolata, amœne viridia, superiora longiora, oblonga, subacuminata; perichætialia sublanceolata. Theca pro plantulæ brevitate longipedunculata, clavato-pyriformis, crassa, collo longiusculo prædita, inclinata, horizontalis, purpureo-fusca, operculo longissime conico subhemisphærico. — *C. Müll. Syn.* i. 291.

Hab. Andes Chilenses australiores, Antuco in rupibus madidis, *Pœppig*.

Dentes peristomii externi lato-lanceolati, breves, interni apice albidi, medio secedentes, albidi, læves.—*C. Müll. l. c.*

46. B. SOCORRENSE (*Hampe in Ann. Sc. Nat.* ser. 5. iv. 338, Cladodium). Cæspitosum; caulis ramosus. Folia patentia, laxe subimbricata, concava, ovata, apice obtusa subrecurva, nervo rufescente sub summo apice evanido, marginibus a basi fere ad apicem usque reflexis, apice subserrulatis, cellulis basilaribus paucis rectangulis, superioribus omnibus oblongis trapezoideis teneris; perichætialia conformia, vix bulbula vaginulæ longiora. Theca in pedunculo crassiusculo elongato inclinata, curvata, sporangio ovali, collo pyriformi, ore magno subobliquo, operculo conico acuminato, peristomii dentibus luteis, interni processibus carinatis pertusis, ciliis rudimentariis subnullis interpositis, in membrana ad ⅓ usque dentium longitudinis exserta impositis; annulus compositus.

Hab. Andes Bogotenses, Bogota, Socorro (1400 metr.), in saxis ad rivulos, *Lindig*. Andes Quitenses, in sylva Canelos ad Rio Topo (3000 ped.), *Spruce*, n. 298, et ad Playa de Mapoto (3500 ped.), *Spruce*, n. 299.

Caulis ½–2 uncias altus, interdum altior, inferne terra obrutus, infra perichætium innovans. Folia fusco-viridia. Pedunculus ¾-uncialis. Theca 1½ lineam longa.

Habitu *B. Maynensi* simile, et in iisdem locis habitans. Vix nisi caulis longitudine a *B. platyphyllo* diversum.

47. B. SEMIMARGINATUM (*Hampe in Ann. Sc. Nat.* ser. 5. iv. 341). Synoicum, dense cæspitosum, gracile, usque ad ramos superiores tomentosum; caulis erectus, tomento interrupte foliatus, innovationibus gracilibus auctus, ramis angulatis laxe foliatis. Folia caulina oblongo-lanceolata, margine arcte revoluta, submarginata, integerrima, nervo lutescente crasso cuspidata; ramorum angustiora, laxe disposita, decurrentia, flaccida, sicca parum torquescentia, apice denticulata. Seta erecta, gracilis, elongata, apice inclinata. Theca clavato-pyriformis, subpendula, operculo umbonato-apiculato foveolato-punctato pallido; peristomium *B. sordidi.*

Hab. Andes Bogotenses, Bogota S. Juan ad rivulos (1400 metr.), *Lindig.*

B. pseudo-triquetri formis gracilibus simile, sed *B. Philippiano* C. Müll. propinquius, differt innovationibus angulatis elongatis, foliis angustioribus, ramorum decurrentibus et operculo pallido nec atropurpureo nitente.—*Hampe, l. c.*

48. B. TORQUESCENS (*Bruch et Schimp. Bryol. Europ.* t. 20). Synoicum; caulis brevis. Folia patentia, comalia oblonga acuminata, nervo excurrente pilifera, marginibus inferne reflexis superne brevissime serrulatis, limbo e cellularum angustissimarum seriebus tribus conflato circumductis, cellulis ovali-hexagonis. Theca in pedunculo elongato apice arcuato latiusculo pendula, clavata, operculo conico, peristomium perfectum.

Hab. Ins. Chiloe, *Cuming,* n. 1454. Brasilia, Montevideo, *Gibert,* n. 652.

Caulis ¼–½-uncialis. Folia lineam longa, viridia, fulva rufescentia, sicca appressa torta. Pedunculus 1–1½-uncialis. Theca cum collo 2-linearis.

49. B. GARDNERI (*Mitt.*). Synoicum; caulis brevis. Folia patentia, oblongo-elliptica, acuminata, nervo breviter excurrente mucronata, planiuscula, marginibus inferne recurvis superne serrulatis, limbo inconspicuo e serie singula cellularum formato circumductis, cellulis ellipticis utriculo repletis, basilaribus brevioribus subquadratis; comalia majora, oblonga, acuminata, margine reflexa. Theca in pedunculo elongato horizontalis pendulave, incurva, sporangio ovali, collo subæquilongo, operculo conico acuminato, peristomii interni processibus ciliis appendiculatis interpositis, in membrana ad medium usque dentium externi longitudinis exserta impositis.

B. Pabstianum, *C. Müll.*

Hab. Andes Peruvianæ, in monte Pingullu prope Tavalosos, in terra ex incendiis (3000 ped.), *Spruce,* n. 273. Brasilia, ins. Sanctæ Catharinæ, *Pabst ex Herb. C. Müller*; Sierra dos Orgaos, *Gardner*, n. 37; in Brasilia australiore absque loco speciali, *Weir*.

Caulis altitudine 2-linearis. Folia $\frac{3}{4}$ lineam longa, viridia, comalia lineam longa. Pedunculus $\frac{3}{4}$-uncialis. Theca parva.

50. B. BIMUM (*Schreb. Bryol. Europ.* t. 21). Synoicum; caulis humilis, interdum elongatus. Folia patentia, ovalia, acuta, concava, nervo in mucronem brevem excurrente, marginibus planiusculis basi recurvis, limbo angusto e cellularum angustissimarum seriebus circiter tribus conflato circumductis, apice minute serrulatis, cellulis ovali-hexagonis utriculo repletis; comalia erectiora, longiora, oblongo-elliptica, marginibus reflexis. Theca in pedunculo elongato pendula, sporangio ovali, collo breviore plus minus contracto, operculo magno conico, peristomii interni processibus ciliis appendiculatis æquilongis interpositis, in membrana ad medium usque dentium externi longitudinis exserta insidentibus.

Hab. Andes Quitenses, ad rivulum Baccún montis Tunguragua (6500 ped.), *Spruce*, n. 308; Titaicun (11,000 ped.), *Spruce*, n. 309. Andes Novo-Granatenses, prope Tipaquira in declivis humidis (8500 ped.), *Weir*, n. 370.

Caulis $\frac{1}{2}$–1 unciam altus. Folia lineam longa, rigidiuscula, viridia, nervis plus minus rubris, comalia $1\frac{1}{2}$ lineam longa. Pedunculus $1\frac{1}{2}$-uncialis. Theca $1\frac{1}{2}$ lineam longa.

51. B. PHILIPPIANUM (*C. Müll. Syn.* i. 277). Compacte cæspitosum; caulis breviusculus innovationibus ramosus, basi radiculosus s. tomentosus. Folia oblonga, angusta, longiuscule cuspidata, apice denticulata, flexuosa s. undulata, spiraliter incumbentia, caviuscula, laxe areolata, pellucida, nervo crasso excurrente; folia floralia evanidinervia. Theca longissime pedunculata, oblongo-cylindrica, longa, pendula, operculo conico atro-purpureo nitente; dentes externi longissimi, lato-lanceolati, in apicem filiformem pallidiorem rugulosum linea media exaratum producti, interni processus e membrana alta valde sulcato-plicata compressi latissimi et majusculo-hiantes, filiformes, ciliis 3 tenuissime filiformibus nodoso-appendiculatis interjectis.

Hab. Chili, *Philippi*.

Antheridia basi bulboso-celluloso-incrassata, stipitata, magna, clavata, creberrima; archegonia magna, numerosa, paraphysibus numerosis cincta. *B. torquescenti* proximum, foliis autem semper denticulatis multo laxius areolatis, minus torquescentibus vix marginatis distat.—*C. Müll. l. c.*

52. B. NIVALE (*C. Müll. Syn.* i. 262). Hermaphroditum, laxe cæspitosum; cæspites magni; caulis elongatus adscendens innovans, inferior foliis nigrescentibus, superior foliis flavescentibus, purpureus. Folia caulis inferioris senioris lato-lanceolata, acuta, firma, nervo crasso excurrente, margine cellulis nonnullis angustioribus submarginatis, subconvoluta; folia caulis superioris seu innovationis multo latiora, plana, inferiora obtusissima firmiora, superiora acuta membranacea, apice caulis convolu-

tacea; omnia laxe areolata, nervo crasso plerumque excurrente basi purpureo apicem versus flavescente; perichætialia longiusculo-cuspidata; omnia apice interdum subdenticulata.

Hab. Andes Chilenses australiores, inter montem ignivomum Antuco et La Sierra Velada, Muscus omnium altissime in Andibus crescens, *Pœppig* (*Herb. Kunze*).

B. turbinato var. *Schleicheri* proximum, sed inflorescentia hermaphrodita et foliorum forma sat differt. Antheridia magna paraphysibus robustis coloratis mixta. Seta elongata tenuis. Cætera desunt. Species pulcherrima.—*C. Müll. l. c.*

53. B. Crügeri (*Hampe*; *C. Müll. Syn.* i. 300). Dioicum. Folia patentia, in ramorum apicibus sæpe cuspidato-imbricata, lanceolato-oblonga, acuta, concava, nervo brevissime excurrente, marginibus integerrimis, limbo e serie singula cellularum elongatarum formato circumductis, cellulis elongatis ellipticis teneris; comalia longiora, interiora subulata. Theca in pedunculo elongato rubro pendula, sporangio ovali, collo subæquilongo crassiusculo, siccitate curvato contracto, operculo conico, peristomii interni processibus ciliis angustis appendiculatis æquilongis interpositis, in membrana usque ad medium dentium externi producta insidentibus.

B. Lansbergii, *Dozy et Molk. Prod. Bryol. Surinam*, t. 4.

B. ovalifolium, *Sulliv. in Proceed. Amer. Acad.* 1861.

Hab. Ins. Jamaica, *Wilson*; Sti. Vincentis, *Guilding*; Cuba, *Wright*, n. 63. Venezuela, Cumbre de Caracas, *Wagner* et *Herb. Dozy et Molk.* Fl. Negro, ad São Gabriel, in rupibus, *Spruce*, n. 277. Andes Peruvianæ, Tarapoto ad rivulos (1500 ped.), *Spruce*, n. 274; ad cataractas fl. Huallaga (1300 ped.), *Spruce*, n. 275. Andes Quitenses, in sylva Canelos, ad fl. Verde (4000 ped.), *Spruce*, n. 276; ad rivulum Lligua (7000 ped.), *Spruce*, n. 278; Antombos (4500 ped.), *Spruce*, n. 279; Baños (6000 ped.), *Spruce*, n. 280.

Caulis ¼–¾ unciam altus. Folia ½ lineam longa, pallide luteo-viridia, subnitida, rufescentia, comalia lineam longa. Pedunculus ¾-uncialis.

This species varies greatly in appearance, from the greater or less length of its stems and its more or less deformed capsule. The leaves are sometimes shining, but often destitute of gloss. In humid localities there are produced on the stems in the axils of the upper leaves a number of small buds, not unlike the male flowers of many *Hypna*; these are detached with great facility, and remain loose amongst the leaves.

54. B. microchæton (*Hampe in Ann. Sc. Nat.* ser. 5. iv. 342). Dioicum?, minus, laxe cæspitosum, intense lutescens; caulis fructifer brevissimus, subradicalis, innovationibus brevibus auctus, ramis basi remote foliatis apice conglobato-capitatis. Folia caulina latiora et intense colorata, ramorum inferiora minora, superiora longiora, omnia ovato-lanceolata, nervo latescente crasso cuspidata, integerrima, cellulis basilari-

bus subquadratis, cæteris rhomboideis; folia caulina lutescentia; ramorum hyalina pellucida. Seta erecta, gracilis, elongata, caulem quadruplo superans, apice inclinata. Theca inclinata, subnutans, angusta, clavato-pyriformis, operculo umbonato breviter apiculato obtuso, peristomii dentibus externis lanceolato-acuminatis lutescentibus, linea media deficiente, interni membrana plicata flavescente, cruribus angustis appendiculatis, ciliis brevibus pallidis interpositis.—*Hampe, l. c.*

Hab. Andes Bogotenses, Guadelupe ad Barrancas (2900 ped.), *Lindig.*

Ex habitu *B. erythrocarpo* Schw. et *B. erythrocarpoideo,* magis ultimo affine.—*Hampe, l. c.*

55. B. CONICUM (*Hornsch. in Mart. Fl. Bras. Musc.* 43). Caulis fertilis erectus, brevissimus, ramis brevibus julaceis densissime foliosis fastigiato-ramosus. Folia caulina vel perichætialia lato-lanceolata, cuspidata, laxe areolata, intima tenera subhyalina; innovationum oblonga, apiculata, canaliculata, carinata, integerrima, flavo-viridia, nervo crasso carinato ferrugineo in apiculum exeunte, e cellulis parallelogrammicis minus laxis composita. Theca in pedunculo semiunciali erecto parum flexuoso vel curvato basi purpurascente apicem versus pallide luteo horizontalis, parva, angusta, oblongo-cylindrica, luteo-brunnea, ore purpurea, operculo brevissimo conico obtuso purpureo.—*C. Müll. Syn.* i. 301.

Hab. Brasilia, ad latera rivorum prope Novo-Friburgum, *Beyrich.*

E descriptione vix a *B. dichotomo,* cujus thecæ forma summopere variat, discrepans.

56. B. GRACILISETUM (*Hornsch. in Mart. Fl. Bras. Musc.* 44). Caulis brevissimus, innovationibus brevibus apice incrassatis. Folia caulina erecto-patentia, inferiora remota, lanceolata, superiora conferta, lanceolata, cuspidata, canaliculata, integerrima, amœne viridia, nervo valido ferrugineo in cuspidem brevem excurrente, retis areolis parallelogrammicis angustissimis; perichætialia exteriora caulinis similia, interiora longiora angustiora longius cuspidata. Theca in pedunculo erecto gracili purpurascente parum flexuoso pendula, oblongo-cylindrica, flavo-brunnea, dein atropurpurea, operculo brevissimo conico-apiculato purpureo, apiculo fusco.—*C. Müll. Syn.* i. 339.

Hab. Brasilia in solo argilloso humido inter *Trematodontes* prope Novo-Friburgum, *Beyrich.*

An *B. dichotomi* forma?

57. B. MULTIFLORUM (*Hornsch. in Mart. Fl. Bras. Musc.* 43, Webera). "Monoicum; flores masculi gemmiformes axillares numerosi, antheridiis atque archegoniis sterilibus nonnullis intermixtis; dense cæspitulosum, humile, basi fastigiato-ramosum. Folia imbricata, erecto-patentia, oblongo-ovata, acuminata, carinata, integerrima, lurido-viridia, nervo crasso fusco excurrente; perichætialia et perigonialia interiora longiora angustiora longius acuminata. Theca in pedunculo parum flexuoso apice reflexo purpurascente pendula, cylindrica, lævis, viridi-brunnea,

sicca et deoperculata angustata, ore amplo purpureo, operculo conico apiculato rufescente; peristomii dentes interni in membrana lutescente, ciliis binis tenerrimis interpositis."—*C. Müll. Syn.* i. 340.

Hab. Brasilia, S. Sebastian, in muris, *Merkel*; Tijuca, *Olfers.*

Probably not distinct from *B. dichotomum*; and the geminiform male flowers may be the buds which frequently abound in the leaves of that species.

58. B. MICROCARPUM (*Hornsch. in Mart. Fl. Bras. Musc.* 38). Dioicum, humile, gracile, erectum, infra apicem innovationibus æqualibus. Folia inferiora dissita, erecto-patentia, ovata, acuta, superiora in comam fastigiatam conferta, imbricata, lato-lanceolata, acuminata, canaliculata, integerrima, pallide viridia, nervo excurrente; ramea appressa, lato-ovata, obtusa, concava, nervo crasso viridi in apiculum brevissimum excurrente, laxe areolata. Theca in pedunculo longiusculo erecto parum flexuoso-curvato purpurascente pendula, parva, pyriformis, fusca, operculo conico breviter apiculato.—*C. Müll. Syn.* i. 294.

Hab. Brasilia, S. Sebastian ad terram nudam, *Merkel.*

59. B. REMOTIFOLIUM (*Hampe in Linnæa,* xxxii. 131). Cæspitosum, rufo-fuscum; caulis fertilis brevissimus, innovationibus elongatis gracilibus semiuncialibus auctus, masculus simplex humilis. Folia laxe imbricata; floralia latiora, ovata, acute pungentia; innovationum inferiora remota, superiora contigua, majora, ovato-lanceolata, immarginata, plana, subintegerrima, nervo rufescente cuspidata, cellulis basilaribus subquadratis, cæteris rhomboideis teneris, interstitiis teneris rufescentibus; folia pellucida. Seta gracilis, tenera, basilaris, innovationes superans. Theca fuscata, demum nigricans, oblongo-ovata, basi producta, subpendula, deoperculata sub ore contracta urceolata, operculo umbonato obtuso rubro; peristomium *Bryi* normale.

Hab. Andes Novo-Granatenses, Tequendama (2600 metr.), ad terram, *Lindig.*

Inter *Brya atropurpurea. B. bulbilloso* Mont. affine, differt foliis pungentibus et thecæ forma.—*Hampe, l. c.*

60. B. ANGUSTIFOLIUM (*Brid.* i. 685). Dioicum, laxe cæspitosum, humile, gracile. Folia erecto-patentia, superne densius conferta, elongate lanceolata, longe acuminata, subplana, nervo crasso flavo longe cuspidata, angusta, integerrima, margine plana, inferne e cellulis laxiusculis magnis quadratis pellucidis, superne multo densioribus elongatis viridibus areolata; perichætialia interna angustiora. Pedunculus strictus. — *C. Müll. Syn.* i. 309.

Hab. Ins. Hispaniola, *Green, Herb. Bridel.*

61. B. LIMBATUM (*C. Müll. Syn.* ii. 573). Dioicum; gregarie cæspitosum, remotifolium, sordide viride, subsimplex, gracillimum, pusillum. Folia caulina remota, siccitate crispula, minuta, e basi brevissima angus-

tiore oblongo-ovalia, obtuse acuta, planiuscula, margine parum revoluto, e cellulis laxiusculis longioribus pachydermibus indistincte late limbata, superne crenata, nervo rufescente crassiusculo excurrente stricto carinata, cellulis laxiusculis parvulis pachydermibus rufescenti-viridibus; perichætialia angustissime lingulata, obtuse acuta. Theca in pedunculo tenuissimo elongato atro horizontalis v. nutans, minutissima, e collo longiusculo angustissimo oblonga, annulata, operculo conico brevissimo; peristomii parvi dentes exteriores breviusculi, subangusti, lutescentes, intus valde cristati, interiores æquilongi, breves, hiantes, læviusculi, angusti, ciliis binis cohærentibus subrugulosis illos subæquantibus.

Hab. Costa Rica, in regione montosa (5000–8000 ped.), *Œrsted.*

B. turbinatum in minima statura quasi referens.—*C. Müll. l. c.*

62. B. TURBINATUM (*Hedw. Bryol. Europ.* t. 32). Folia erecto-patentia, imbricata, ad caulium apices in gemmam clausam congesta, late ovata, acuta, nervo brevissime excurrente, marginibus limbo angusto e cellularum serie singula formato circumductis, apice subintegerrimis, cellulis ovali-hexagonis pellucidis. Theca in pedunculo elongato pendula, oblongo-clavata, post dilapsum operculi conici sub ore dilatato constricta, peristomii interni processibus ciliis æquilongis, in membrana ad medium usque dentium externi longitudinis exserta impositis.

Hab. Andes Quitenses, ad caput fl. Guano in palude graminosa (10,000 ped.) *Spruce,* n. 311.

Caulis ½-uncialis altiorque. Folia ⅓ lineam longa, sordide viridia, sicca appressa subtorta. Pedunculus ½ unciam longus. Theca lineam longa, fusca.

63. B. APICULATUM (*Schwægr.* t. 72). Dioicum, compactum, subrobustum, subhumile, erectum, sordide viride. Folia ovato-lanceolata, latiuscula, inferne margine subrevoluta, integerrima, nervo crasso flavo dein purpureo, breviter sed crasse cuspidata. Theca in pedunculo breviusculo flexuoso, e collo longiusculo elongato-pyriformis, brunnescens, inclinata, operculo brevissimo conico atro-purpureo nitente; peristomii ciliis internis binis appendiculatis.—*C. Müll. Syn.* i. 308.

Hab. Brasilia, Montevideo, *Sellow.*

Cellulæ basilares subrotundæ, æqualiquadratæ.—*C. Müll. l. c.*

64. B. DICHOTOMUM (*Hedw. Sp. Musc.* t. 42). Dioicum, humile, gracile; caulis cæspitosus. Folia erecto-patentia, laxe imbricata, ovato-lanceolata, concava, nervo in mucronem excurrente, marginibus subplanis, limbo nullo, cellulis oblongis hexagonis, basilaribus ad angulos quadratis; comalia longiora, lanceolata, obtusiuscula. Theca in pedunculo breviusculo pendula, sporangio ovali, collo brevi ut plurimum tuberculoso distorto tumido, rarius symmetrico attenuato, ore satis magno, operculo conico convexo, peristomii interni processibus ciliis appendiculatis interpositis, in membrana ad medium usque dentium externi longitudinis producta impositis.

B. bulbillosum, *Mont. Ann. Sc. Nat.* ser. 2. xvi. 268.

B. atropurpureum, *Web. et Mohr, Bryol. Europ.* t. 37.

Hab. Andes Quitenses, Quito ad aggeres (9700 ped.), *Spruce*, n. 265, et forma elongata sterilis? (10,000 ped.), *Spruce*, n. 270; Guayrapata (9000 ped.), *Spruce*, n. 266; ibidem ad aggeres (forma minor), *Spruce*, n. 267; Baños in saxis ad fl. Pastasa (6000 ped.), *Spruce*, n. 268; Guano in rupibus (9000 ped.), *Spruce*, n. 269; Ambato (8700 ped.), *Spruce*, n. 271; Rio Verde ad Pastasam affluens (4000 ped.), *Spruce*, n. 272. Brasilia, Montevideo, *Gibert*, n. 675, 676, 678, 730.

65. B. ERYTHROCARPUM (*Schwægr.* t. 70). Dioicum, humile. Folia patentia, elliptico-lanceolata, acuta subacuminatave, nervo rubro excurrente, marginibus superioribus subserrulatis, limbo nullo, cellulis ellipticis; comalia parum longiora, magis acuminata. Theca in pedunculo elongato pendula, sporangio ovali, collo subæquilongo, operculo conico, peristomii interni processibus ciliis appendiculatis æquilongis interpositis, in membrana usque ad medium dentium externi longitudinis producta insidentibus.

Hab. Andes Quitenses, Rio Verde ad Pastasam affluens (4000 ped.), *Spruce*, n. 306.

Caulis altitudine 2-linearis. Folia ½ lineam longa, viridia, nervis intense rubris. Pedunculus ¾-uncialis.

These specimens differ a very little from European ones in having the operculum less pointed.

66. B. LEPTOCLADON (*Sulliv. in Proc. Amer. Acad.* 1861). Dioicum, humile. Folia teretiuscule imbricata, latissime ovata, acuta, concava, integerrima, limbo nullo, nervo percurrente, cellulis laxis oblongo-hexagonis; comalia oblonga, acuminata, nervo in mucronem brevem excurrente, cellulis elongatis. Pedunculus brevis. Theca subhorizontalis, sporangio globoso-ovali, collo subæquilongo crassiusculo curvato, operculo conico, peristomii interni processibus ciliis appendiculatis interpositis, in membrana ad medium dentium externi longitudinis exserta impositis.

Hab. Ins. Cuba, in humidis ad terram, *Wright*, n. 62.

Caulis 2–3 lineas altus, gracilis. Folia ¼ lineam longa, viridia, comalia ½-linearia. Pedunculus 4-linearis. Theca ¾ lineam longa.

67. B. BRACHYPHYLLUM (*Mitt.*). Caulis brevis. Folia imbricata, orbiculata, acuta, concava, nervo medio evanido, integerrima, cellulis apice ellipticis, inferioribus oblongis, omnibus limitibus tenerrimis pellucidis; comalia late ovato-lanceolata, acuta, nervo percursa, marginibus reflexis. Theca in pedunculo elongato rubro inclinata, sporangio cylindraceo, curvata, collo dimidio breviore, operculo conico acuto, peristomii interni processibus elongatis, angustis, ciliis binis interpositis, in membrana ad dentium externi medium producta impositis.

Hab. Andes Quitenses, *Jameson*.

Caulis ruber, lineam altus. Folia ¼ lineam, comalia ⅓ lineam longa, nitida. Pedunculus uncialis. Theca cum collo 1½ lineam longa.

68. B. TENELLUM (*Schimp.*; *C. Müll. Syn.* ii. 572). Dioicum, humile; ramulis subjulaceis. Folia dense imbricata, ovata, concava, integerrima, excurrentinervia, laxe reticulata; perichætialia majora, interna lanceolata, nervo sub apice evanido. Theca in pedunculo semiunciali cernua, subnutans, breviter pyriformis, brevicolla, fusca, late annulata, operculo brevi conico; peristomio *Weberæ*.

Hab. Mexico, Pico de Orizaba, *Liebmann*.

Proxime ad *B. cellulare* (Indiæ orientalis) et *B. Ludwigii* (Europæ), cujus thecam et peristomium habet, accedit.—*C. Müll. l. c.*

69. B. CANDICANS (*Tayl. MS.*). Dioicum, cæspitosum; caulis brevis. Folia tereti-imbricata, late orbiculato-ovata, obtusa, concava, nervo supra medium evanido, cellulis superioribus oblongis limitibus rotundatis, inferioribus rhombeis; comalia late ovata, obtusa. Theca in pedunculo longiusculo pendula, sporangio cylindraceo, collo sensim attenuato dimidio breviore, operculo conico, peristomii interni processibus ciliis æquilongis teneris, in membrana ad medium dentium externi longitudinis exserta impositis.

Hab. Andes Quitenses, *Jameson*, in monte Carguairazo (11,000 ped.), *Spruce*, n. 262. Fl. Negro ad rupes graniticas apricas, *Spruce*, n. 263.

Caulis 2–6 lineas altus. Folia ¼ lineam longa, argenteo-viridia, arctissime imbricata. Pedunculus 4-linearis, ruber, ante thecam longe curvata. Theca 1½ lineam longa, fusca.

70. B. ARGENTEUM (*Linn. Sp. Pl.* 1586; *Bryol. Europ.* t. 41). Dioicum, humile. Folia tereti-imbricata, late subrotundate ovata, concava, apiculo plus minus elongato terminata, marginibus integerrimis, nervo supra medium evanido vel in acumen producto, cellulis in dimidio superiore elongatis angustis, in inferiore latioribus rhombeis, ad angulos quadratis; comalia late ovata, acuminata. Pedunculus breviusculus, ruber. Theca pendula, sporangio ovato, collo breviusculo, post exsiccationem rugulosa, peristomii interni processibus ciliis tribus æquilongis interpositis, in membrana ultra medium dentium externi exserta insidentibus.

Hab. Ins. Cuba, *Wright*, n. 59. Andes Bogotenses (8000–9000 ped.), ad terram et in tectis, *Weir*, n. 238, 299. Andes Quitenses, *Jameson*, Baños (6000 ped.), *Spruce*, n. 260; Titaicun (11,000 ped.), *Spruce*, n. 261. Brasilia, *Gardner*, n. 34, et (2000 ped.) *Weir*, n. 63.

Caulis 2–4 lineas altus. Folia linea dimidia breviora, argenteo-viridia, nitida, apice vel mutica vel in mucronem piliformem plus minus elongatum producta. Pedunculus 3–6-linearis, ruber, rarius flavus. Theca sanguinea.

71. B. BREVICAULE (*Schimp. ex C. Müll.*). Dioicum, humile, ramulis teretibus vel clavatis fragilibus. Folia imbricata, apice recurva, cordato-ovata, mucronata, concava, integra, nervo solido viridi, cellulis sat magnis

chlorophyllosis; perichætialia late lanceolata. Theca in pedunculo elongato tenui obliqua vel horizontalis, clavata, rufo-brunnea, solida, brevicolla, operculo brevi depresso-conico, annulo lato revolubili; peristomii externi dentes anguste lineari-lanceolati, subulati, pallide lutescentes, interni membrana lata hyalina processibus pertusis, ciliis singulis apice appendiculatis.

B. Liebmannianum, *C. Müll. Syn.* ii. 573.

Hab. Mexico, in monte Orizaba, *Liebmann.*

Flos masculus *B. argentei,* cui affinibusque auctor adnumeravit.—*C. Müll. l. c.*

72. B. PLAGIOPODIUM (*Schimp.*; *C. Müll. Syn.* ii. 572). Habitu *B. argentei*; ramulis julaceis numerosis. Folia imbricata, pallide viridia, nitida, late ovata, anguste acuminata, concava, integra vel apice denticulata, nervo tenui excurrente, cellulis rhombeis satis laxis; perichætialia ovato-lanceolata, sensim acuminata, nervo angusto excurrente vel sub apice evanido. Theca in pedunculo flexuoso superne arcuato pendula, clavata, longicolla; peristomium externum *B. argentei,* internum pallide perforatum, ciliis singulis.—*C. Müll. l. c.*

Hab. Mexico, in monte Orizaba, *Liebmann.*

73. B. CHRYSEUM (*Mitt.*). Dense cæspitosum, humile, innovationibus breviusculis, foliis tereti-imbricatis julaceis ramosum. Folia latissime ovata, excavata, nervo in acumen angustum subserrulatum patentem producto, margine apice subserrulata, inferne late implana, cellulis in dimidio folii inferiore subquadratis, in dimidio superiore elongatis angustis; perichætialia oblonga, acuminata. Pedunculus elongatus, gracillimus. Theca horizontalis, elongata, angusta, sporangio oblongo-cylindraceo, collo sensim angustato æquilongo, operculo convexo-conico, peristomii interni processibus latis brevibus, ciliis lævibus æquilongis interpositis, in membrana ultra medium dentium longitudinis exserta insidentibus.

Hab. Guatemala, Volcan de Fuego, *Godman et Salvin.*

Caulis brevissimus, innovationes 2–3 lineas altæ. Folia cum acumine ½ linea breviora, aurea, nitida. Pedunculus 8–10 lineas longus. Theca cum collo 2 lineas longa.

Statura et folii imbricatione *B. argenteo* simile, sed aureum.

74. B. PUNGENS (*Tayl. in Hook. Lond. Journ.* v. 342). Laxe cæspitosum, erectum, gracile, subfastigiatum, apice incrassatum. Folia arcte imbricata, erecta, cordato-triangularia, longius et tenuiter acuminata, integerrima, excurrentinervia; perichætialia brevissima. Theca longiusculo-pedunculata, lata, elongate pyriformis, subhorizontalis; peristomii dentes interni ciliis solitariis interjectis.—*C. Müll. Syn.* i. 302.

Hab. Andes Quitenses, in monte Pichincha, *Jameson.*

E notis ex herbarii beati Taylori species *B. argenteo* similis. Caulis cum foliis 2 lineas crassus. Folia ovato-lanceolata, acuminata, nervo percursa. Pedunculus subuncialis. Theca *oblonga, inclinata*. Peristomium normale.

75. B. SERICEUM (*Mitt.*). Dioicum, cæspitosum; caulis brevis, ramis brevibus. Folia erecto-patentia, laxe imbricata, e basi excavata ovata, subulata, marginibus basi recurvis integerrimis, nervo pallido subpiliformi excurrente, cellulis basi abbreviatis, ad angulos perfecte quadratis, interioribus quadratis trapezoideisque, superioribus elongatis ellipticis laxis teneris pellucidis; perichætialia conformia. Theca in pedunculo elongato pendula, ovalis, collo pyriformi, ore subobliquo, operculo convexo conico, peristomii dentibus lanceolate subulatis, processibus latis ciliisque singulis appendiculatis æquilongis, in membrana fere ad dentium medium exserta impositis.

Hab. Andes Quitenses, Baños, in declivibus saxosis umbrosis montis Tunguragua (7000 ped.), *Spruce*, n. 296; Quito (9700 ped.), *Spruce*, n. 297, et *Jameson*.

Caulis fertilis brevissimus, ramis 2-linearibus innovans. Folia straminea, pallida, inferiora laxe imbricata, apicibus patentibus exstantibus. Pedunculus unciam longus. Theca cum collo 1½-linearis.

Statura habituque *B. semiovato* simile et transitum in foliorum structura inter species *B. julaceo* similes et eas cellulis amplioribus *B. argenteo* convenientes ostendens.

76. B. FILINERVE (*Mitt.*). Dioicum; caulis brevis. Folia erecta, ovata, nervo crassiusculo in mucronem longiusculum denticulatum excurrente, marginibus apicem versus serrulatis, cellulis basi ad angulos oblongis rectangulatis, superioribus rhombeis; perichætialia majora conformia. Theca in pedunculo rubro, ovalis, pendula, ore magno, operculo conico obtuso, peristomii dentibus rubris, processibus latis, ciliis duobus æquilongis longe appendiculatis interpositis, in membrana ultra dentium medium exserta impositis.

Hab. Andes Quitenses, in sylva Canelos, loco Pueblo de los Jebaros, in lignis (3000 ped.), *Spruce*, n. 285.

B. semiovato magnitudine, habitu facieque simillimum, foliis autem diversissimis.

77. B. SEMIOVATUM (*Brid.* i. 846). Humile. Folia erecta, imbricata, ovali-lanceolata, concava, nervo in mucronem brevem excurrente, marginibus apice subintegerrimis inferne recurvis, cellulis superioribus ellipticis angustis, inferioribus oblongis latioribus; comalia lanceolata, basi lata subtruncata, apice serrulata, cellulis superioribus angustis. Theca in pedunculo elongato horizontalis nutansve, sporangio ovali, collo breviore crassiusculo, operculo magno hemisphærico, peristomii interni processibus ciliisque tribus æquilongis trabeculatis, in membranam ad medium dentium externi longitudinis productam impositis.

Hab. Andes Quitenses, Pasto (1350 hexap.), *Humboldt et Bonpland*; in sylva Canelos ad riv. Verde (4000 ped.), *Spruce*, n. 286; in scopulis ad cataractam Agoyan fl. Pastasa (5000 ped.), *Spruce*, n. 287; ad fl. Pastasa in terra micacea (5000 ped.), *Spruce*, n. 290, 291; Quito (9500 ped.), *Spruce*, n. 289; ad. fl. Napo, *Osculati*.

B. julaceo simile, sed foliis acutis, nervo excurrente et cellulis minus induratis diversum.

78. B. JULACEUM (*Sm. Fl. Brit.*; *Bryol. Europ.* t. 40). Caulis elongatus. Folia erecta, tereti-imbricata, late ovalia, concava, obtusiuscule acuta, marginibus superioribus crenulatis, nervo infra apicem evanido, cellulis superioribus elongatis angustis, inferioribus laxis latioribus oblongis; comalia lanceolata obtusiuscula. Pedunculus elongatus. Theca horizontalis nutansve, sporangio ovali, peristomii dentibus lineari-acuminatis, interni processibus ciliisque æquilongis, in membrana ultra medium dentium exserta insidentibus.

Hab. Andes Bogotenses, in declivibus Boqueron prope Bogota (8600 ped.), *Weir*, n. 229; prope Tipaquira in declivibus humidis (8500 ped.), *Weir*, n. 302; ad cataractam Tequendama (7500 ped.), *Weir*, n. 344. Andes Quitenses, in monte Guayrapata (8000–9000 ped.), *Spruce*, n. 292; in sylva Canelos ad fl. Verde (4000 ped.), *Spruce*, n. 293; Jalupana prope Quito (9000 ped.), *Spruce*, n. 294; Pichincha (10,000 ped.), *Spruce*, n. 295, et *Jameson*. Brasilia, Montevideo, *Gibert*, n. 677.

Caulis $\frac{1}{4}$–1 unciam altus. Folia $\frac{1}{3}$ lineam longa, argenteo-viridia, nitida. Pedunculus 6–9 lineas longus. Theca $1\frac{1}{2}$-linearis.

79. B. PROSTRATUM (*C. Müll. Syn.* i. 317). Caulis elongatus, erectus. Folia arcte teretique imbricata, latissime ovata obovatave, obtusiuscule acuta, concava, nervo sub apice evanido, marginibus subintegerrimis, cellulis superioribus angustis elongatis, parietibus crassiusculis, inferioribus ad angulos laxis oblongis rhombeisque pellucidis; comalia ovato-lanceolata, acuta, nervo excurrente, cellulis omnibus angustis, basilaribus laxioribus. Theca in pedunculo elongato horizontalis pendulave, sporangio oblongo ovali, collo breviore attenuato, operculo magno hemisphærico acuto, peristomii interni ciliis tribus appendiculatis, in membrana alte exserta impositis.

Hab. Venezuela, prov. de Merida (9000 ped.), *Funck et Schlim*, n. 1081. Andes Bogotenses, in montibus prope Bogota in declivibus rupestribus humidis (8500 ped.), *Weir*, n. 352. Andes Quitenses, in monte Pichincha inter *Hypnum plumosum* (11,000 ped.), *Spruce*.

Caulis 2–3-uncialis. Folia $\frac{1}{2}$ lineam longa, luteo-viridia flavescentia, nitida. Pedunculus $1\frac{1}{2}$-uncialis. Theca cum collo $1\frac{1}{2}$-linearis.

80. B. ORBICULATUM (*Mitt.*). Caulis elongatus, ramosus. Folia tereti-imbricata, julacea, orbiculata, concava, apice angulo obtuso terminata, minute serrulata subintegerrimave, nervo flavo infra apicem evanido, cellulis basilaribus oblongis brevibus, superioribus longioribus ellipticis, ad margines angustis haud incrassatis pellucidis.

Hab. Andes Quitenses, in monte Pichincha (10,000 ped.), inter cæspites *Hypni filicini, Spruce.*

Caulis 2-uncialis altiorque. Folia in apicibus caulium cuspidato-imbricata stramineo-viridia, subnitida.

Habitu omnino *B. julacei.*

81. B. SORDIDUM (*Hampe in Ann. Sc. Nat.* ser. 5. iv. 341). Dioicum, dense cæspitosum, humile, basi fuscescenti-tomentosum, innovando-ramosum, fusco-viride; caulis fructiferus brevis, densius foliatus, innovationibus basi attenuatis, laxe foliatis, apice conglobato capitatis. Folia concava, lata, oblongo-ovato-lanceolata, margine arcte revoluta, integerrima, nervo rufescente cuspidata, cuspide sæpe parum reflexa, cellulis basilaribus laxis, superioribus minoribus, rhomboideis, interstitiis flavescentibus, folia tota pellucida. Seta uncialis, erecta, apice curvata, rubra. Theca horizontalis, elongato-clavata, longicollis, operculo umbonato apiculata; peristomio *B. terebelli.*—*Hampe, l. c.*

Hab. Andes Bogotenses, Guadelupe (3200 metr.) ad "Barrancas," *Lindig.*

B. torquescens æmulans, inflorescentia diversum.—*Hampe, l. c.*

82. B. SUBPILOSUM (*Mitt.*). Dioicum, humile. Folia patentia, ovali-lanceolata, nervo filiformi excurrente carinata, marginibus recurvis integerrimis, limbo angusto e cellularum seriebus duabus composito circumductis, cellulis oblongo-hexagonis, parietibus angustissimis utriculo subobscuratis; comalia erectiora, longiora, oblonga, acuminata, marginibus reflexis. Theca in pedunculo elongato rubro pendula, sporangio oblongo ovali, collo sensim attenuato breviore, sicca contracta, operculo convexo acuminato, peristomii interni processibus ciliis tribus appendiculatis interpositis, in membrana ad medium usque dentium externi producta insidentibus.

Hab. Andes Quitenses, Pangor (9000 ped.), *Spruce*, n. 313; Quito, *Jameson.* Peruvia, ad Casapi, *Mathews.*

Caulis ½–¾ unciam altus. Folia ¾ lineam longa, viridia, rufo-fuscescentia, mollia. Pedunculus uncialis.

B. cæspititio habitu statura formaque foliorum simile, sed foliis basi haud rotundato-contractis, et cellulis parietibus tenerioribus utriculo flexuoso repletis.

83. B. TENUICAULE (*Mont. in Ann. Sc. Nat.* ser. 3. iv. 104). Dioicum?; caulis tenuis, brevissimus, innovando-ramosus, innovationibus hypogyneis vel e ramis repetito-proliferis gracilibus basi subnudis, apice comoso-foliosus. Folia caulina ovata, acuta, concaviuscula, margine subrecurva, integerrima, patentia, innovationum obtusa, nervo evanescente, pellucida. Theca in pedunculo erecto horizontalis, pyriformis, operculo convexo absque apiculo.—*C. Müll. Syn.* i. 293.

Hab. Chili, prope Valparaiso, *Gaudichaud.*

84. B. CLAVATUM (*Schimp. in Ann. Sc. Nat.* ser. 2. iv. 148). Dioicum?,

dense cæspitosum; caulis erectus, ramosus. Folia erecto-patentia patulave, ovato-lanceolata, obtusiuscula, subconcava, integerrima, nervo sub apice evanescente. Theca in pedunculo elongato recurvato inclinato-horizontalis, clavæformis, angusta, operculo convexo papillato.

Hab. Chili ad scaturigines collium prope Quillota.—*Bertero.*

Species pulchella, thecæ forma atque toto habitu *Pohliis* simillima; peristomio autem interiore, cujus cilia, numero et forma valde variabilia, denticulis carent internis, ad Bridelii *Cladodia* accedit.—*C. Müll. Syn.* i. 292.

85. B. MACROPELMA (*C. Müll. Syn.* i. 275). Dioicum, dense cæspitosum, tomentosum, subhumile, erectum, densifolium, innovationibus gracilioribus longioribus sed tomentosis. Folia erecto-patentia, oblonge vel ovato-acuminata, non decurrentia, elongata, nervo crasso flexuoso ferrugineo purpureo decurrente longe flexuose et acutissime cuspidata, e cellulis angustissimis flavis a basi fere lato-marginata, integerrima vel obsolete denticulata, basi e cellulis majusculis elongatis parallelogrammicis apicem versus multo minoribus rhomboideis pellucidis formata; perichætialia intima minima, angustiora, longius cuspidata, margine inferne revoluta. Theca in pedunculo quam maxime elongato substricto, elongato-pyriformis, apice paulo attenuata, ore subconstricta, pendula, majuscula, pallida, operculo majusculo conico breviter acuto aurantiaco nitido.

Hab. Chili australis, in Andibus de Antuco, *Pœppig.*

Ex habitu *B. densifolio* simile, sed foliis integerrimis late marginatis latioribus longioribus, et theca maxima pyriformi longissime elongata ab eo ceterisque congeneribus recedit. *B. bimi* formis robustioribus ex habitu caulium atque thecæ forma quoque simile, sed notis datis facile descernibile. Peristomium *Weberæ*, magnum, ciliis binis interjectis.—*C. Müll. l. c.*

86. B. WAGNERI (*C. Müll. Syn.* ii. 570). Brevicaule, innovationibus pluribus rectiusculis flaccidis tenuibus inferne nudis pallide virescentibus vix torquescentibus valde ramosum. Folia caulis fertilis elongate lanceolato-acuminata, margine haud revoluto, nervo purpurascente excedente longe flexuose capillaria, ramulina viridinervia tenera brevius cuspidata magis ovata, areolatione utriculo primordiali tenuissimo obsoleto prædita. Theca in pedunculo elongato purpurascente, longicolla, elongate cylindrico-oblonga, ore constricta, pallida, dein brunnescens, pendula, operculo conico acute pallidius colorato, dentibus angustis.

Hab. Columbia, Cumbre de Caracas (3000 ped.), *Wagner.*

A *B. capillari* simillimo notis illustratis facile distinguitur.—*C. Müll. l. c.*

87. B. CAVUM (*C. Müll. Syn.* i. 283). Dioicum, humile. Folia patenti-incurva, imbricata, ovalia, nervo piliformi excurrente, integerrima, marginibus inferne recurvis, limbo angusto e seriebus duabus cellularum composito circumductis, cellulis superioribus oblongo-hexagonis utriculo

repletis basi quadratis; comalia interna lanceolata, sensim acuminata, marginibus reflexis. Theca in pedunculo elongato pendula, sporangio ovali, collo tumido parum breviore curvato, operculo satis magno conico, peristomii interni processibus ciliis æquilongis interpositis, in membrana ad medium dentium externi longitudinis exserta insidentibus.

Hab. Brasilia, Arrayas, ad muros, *Gardner*, n. 36 *b*; Corritiba ad viarum latera (2000 ped.), *Weir*, n. 90; Montevideo, *Gibert*, n. 651; etiam e Brasilia, ex *Herb. Montagne.*

Caulis 3–4 lineas altus. Folia ¾ lineam longa, viridia, sicca appressa, contorta. Pedunculus ¾ unciam longus.

88. B. CONGESTUM (*Mitt.*). Dioicum; caules inferne radicellis intertextis tomentosi. Folia erecto-patentia, laxe imbricata, late ovalia, acuta, concava, nervo in mucronem brevem recurvum excurrente, marginibus recurvis, limbo inconspicuo e cellularum serie singula composito circumductis, cellulis superioribus late ovali-rotundis hexagonis, inferioribus oblongis, parietibus teneris; comalia longiora, oblonga, superne latiora, acuminata, marginibus reflexis. Theca in pedunculo elongato pendula, sporangio oblongo, collo breviore sensim angustato, siccitate contracto, operculo conico, peristomii interni processibus ciliisque æquilongis appendiculatis, in membrana ad dentium medium exserta impositis.

Hab. Andes Quitenses, Quito ad aggeres (9500 ped.), *Spruce*, n. 315, et *Jameson*; Guayrapata (9000 ped.), *Spruce*, n. 314; Baños (6000 ped.), *Spruce*, n. 316; Tunguragua (7000 ped.), *Spruce*, n. 317; Titaicun, in carbonariis (11,000 ped.), *Spruce*, 318. Brasilia, *Gardner*, 36 *a*; in prov. St. Paulo ad viam inter Itu et Constitutao (1800 ped.), *Weir*, n. 23.

Caulis 3–9 lineas altus. Folia ¾ lineam longa, viridia. Pedunculus uncialis. Theca cum collo 2-linearis.

B. cæspititio simillimum, sed minus.

89. B. CONCAVUM (*Mitt.*). Dioicum, compacte cæspitosum, humile. Folia erecto-patentia, ovali-lanceolata, concava, nervo brevissime excurrente, marginibus planiusculis integerrimis, limbo angusto e cellularum seriebus duabus composito circumductis, cellulis oblongo-hexagonis; comalia angustiora, elongato-lanceolata, marginibus reflexis. Theca in pedunculo elongato pendula, sporangio ovali, collo sensim attenuato breviore, sicca contracta angusta, ore satis parvo, operculo conico, peristomii dentibus luteis teneris, interni processibus angustis, ciliis in unum brevius coalitis vel omnino deficientibus, in membrana ad dentium medium exserta impositis.

Hab. Andes Quitenses, ad caput fluvii Guano in palude graminosa (10,000 ped.), *Spruce*, n. 310.

Caulis ½ unciam altus. Folia ½-linearia, viridia fuscescentia, sicca appressa. Pedunculus subuncialis. Theca cum collo 1½-linearis.

Quoad thecæ formam *B. intermedio* Brid. simillimum.

90. B. SOBOLIFERUM (*Tayl. in Hook. Lond. Journ.* v. 51). Dioicum;

caulis gracilis, elongatus, ramosus, laxissime cæspitosus. Folia remota, erecto-patentia, ovali-lanceolata, acuminata, concava, nervo tenui infra acumen evanescente, marginibus integerrimis erectis basi recurvis decurrentibus, limbo nullo, cellulis oblongis, utriculo dissoluto; comalia longiora, sensim angustata. Theca in pedunculo elongato pendula, clavata, incurva, sporangio ovali, collo subæquilongo, operculo parvo conico, peristomii interni processibus ciliis æquilongis in unum coalitis interpositis, in membrana ad medium usque dentium externi longitudinis exserta insidentibus.

Hab. Andes Quitenses, Pichincha, *Jameson.*

Caulis 1–4 uncias longus, ruber, inferne decumbens. Folia lineam longa, tenera, pellucida, viridia rufescentia. Pedunculus unciam longus. Theca cum collo 2-linearis.

91. B. CORONATUM (*Schwægr.* t. 71). Dioicum, humile. Folia patentia, oblongo-elliptica, planiuscula, nervo in pilum excurrente, marginibus superne serrulatis, limbo e cellularum angustarum seriebus duabus conflato circumductis, cellulis oblongo-hexagonis, basilaribus subquadratis utriculo granuloso repletis; comalia longiora, erectiora. Theca in pedunculo elongato pendula, sporangio oblongo, cylindracea, basi abrupta rugosa, collo vix ullo, operculo magno conico, peristomii interni processibus ciliis interpositis, in membrana ad medium usque dentium externi producta insidentibus.

Hab. Ins. Jamaica, *Heward*; Cuba, *Pœppig*, *Wright*, n. 60, et ex *Herb. Montagne*; Hispaniola, *Bertero*; Nova Granata ad fl. Magdalena prope Plato (600 ped.), in sylvis callidis ubi Balsamum Tolutanum collegitur, *Weir*, n. 390; Guiana, *Richard.* Fl. Negro, Manáos in ecclesiæ muris, *Spruce*, n. 282; fl. Amazon, Pará, in muris, *Spruce*, n. 283. Andes Peruvianæ, Tarapoto (1500 ped.), in lignis et terra locis cultis præcipue in hortis musarum sive "Platanale," *Spruce*, n. 284; Guayaquil, loco Chonana ad palmarum radices, *Spruce*, n. 281; Chili, *Pœppig.*

Caulis 3–6 lineas altus. Folia lineam longa, viridia, sicca contracta haud torta. Pedunculus $\frac{1}{2}$–$\frac{3}{4}$-uncialis. Theca lineam longa, operculo nitente.

92. B. CAPILLARE (*Linn. Syst. Veg.* 947, Mnium; *Bryol. Europ.* t. 28). Dioicum. Folia patentia, oblongo-obovata, subacuminata, nervo vel sub apice evanido vel excurrente, marginibus limbo tenui e cellularum angustissimarum elongatarum seriebus 5–6 conflato circumductis, superne serrulatis, cellulis ovali-hexagonis; perichætialia interna subulata. Theca in pedunculo elongato pendula, sporangio ovali, cylindracea, collo dimidio breviore attenuato, operculo breviter conico, peristomii interni processibus ciliis tribus æquilongis appendiculatis inter se adhærentibus subliberisve, in membrana fere ad dentium medium usque exserta impositis.

Hab. Andes Quitenses, Quito, *Jameson*; Pallatanga ad ligna (6000 ped.), *Spruce*, n. 319; Titaicun ad arbores (11,000 ped.), *Spruce*, n. 320.

Caulis ¼–1-uncialis, infra perichætium innovando-ramosus. Folia comalia lineam longa, planiuscula vel plus minus concava, nervo interdum longe ultra apicem producto pilifera.

Species adspectu varians per orbem regionibus temperatis incola.

93. B. TEREBELLUM (*Hampe in Linnæa,* xxxii. 130). Dioicum, cæspitosum; caulis fastigiatim ramosus. Folia ut plurimum rosulata, in comam clausam bulbiformem congesta, ovalia, acuminata, concava, nervo in mucronem excurrentem producto, marginibus ubique implanis recurvulis, cellulis teneris 5–6 angustissimis limbum cartilagineum apice serrulatum formantibus, cellulis parvis ovalibus prosenchymaticis; perichætialia magis acuminata, interna minora. Theca in pedunculo elongato pendula.

Hab. Andes Bogotenses, Guadelupe (2900 metr.), *Lindig*; in montibus prope Bogota, *Weir*, n. 291.

Caulis unciam altus. Folia comalia 1½ lineam longa.

Habitu *B. campylothecio* Taylor (Australiæ) simillimum, et nisi foliis in statu sicco appressis spiraliter tortis vix ab eo distinguendum.

94. B. PALLENS (*Sw. Musc. Suec.* t. 4. f. 12). Cæspitosum. Folia patentia, ovali-elliptica, acuminata, planiuscula, nervo percurrente vel sub acumine evanido, marginibus limbo tenui angusto e cellularum angustissimarum seriebus tribus conflato circumductis, superne minute remoteque serrulatis, cellulis oblongo-ovalibus hexagonis, parietibus angustis, utriculo plus minus dissoluto; comalia elongate oblonga, acuminata. Pedunculus elongatus. Theca horizontalis pendulave, sporangio ovali, collo longiusculo sæpe curvato contracto, ore subobliquo, operculo conico, peristomii interni processibus ciliis æquilongis appendiculatis interpositis, in membrana ad medium dentium externi longitudinis exserta impositis.

Hab. Andes Quitenses, Llalla (9000 ped.), *Spruce*, n. 311 *b*.

Caulis ½–1 unciam altus. Folia lineam longa, mollia, nervis marginibusque sæpe colore roseo suffusis, comalia 1½-linearia. Pedunculus uncialis. Theca 2-linearis.

95. B. PROLIFERUM (*Mitt.*). Dioicum; caules graciles, innovationibus elongatis, inferne radicellis tomentosis intertexi. Folia erecto-patentia, anguste elongate elliptico-lanceolata, acuta, nervo breviter excurrente, marginibus recurvis apice serrulatis, limbo angustissimo e cellularum seriebus duabus conflato circumducta, cellulis angustis ellipticis basi brevioribus; comalia basi latiora, subulato-lanceolata. Theca in pedunculo elongato nutans, sporangio oblongo, collo dimidio breviore curvato, peristomii interni processibus ciliisque æquilongis lævibus, in membrana ad dentium medium producta insidentibus.

Hab. Andes Bogotenses, Boqueron prope Bogota, in declivibus (8500 ped.), *Weir*, n. 200.

Caulis ½ unciam altus. Folia ¾ lineam longa, viridia. Pedunculus subuncialis.

Est quasi primo visu *B. sanguineo* in statu filescente elongato propinquum. A *B. sobolifero* foliis angustis serrulatis diversum.

96. B. **MAYNENSE** (*Spruce*). Humile, gracile. Folia laxe disposita, patentia, planiuscula, nervo crassiusculo percursa, basi anguste decurrentia, limbo e cellularum seriebus 3–4 crassiusculis distincto marginata, superne serrulata, cellulis parvis oblongis areolata; perichætialia majora, conformia vel breviapiculata. Theca in pedunculo breviusculo rufo, sporangio ovali, collo æquilongo contracto basi flexo, decurvata, ore demum deorsum spectante, operculo conico.

Hab. Ins. Trinidad, *Black.* Andes Peruvianæ, Tarapoto, *Spruce*, n. 300. Andes Quitenses, fl. Bombonasa in saxis lignisque inundatis, *Spruce*, n. 301; in saxis fl. Pastasa inundatis, *Spruce*, n. 302; ad cataractam Huallaga, *Spruce*, n. 303; fl. Bombonasa, forma minor, *Spruce*, n. 304; Rio Verde in saxis inundatis, *Spruce*, n. 305.

Caulis ½–1 unciam altus, in cæspite crescens. Folia ½ lineam longa, obscure viridia, fulvescentia. Pedunculus ½ unciam altus. Theca fusca.

B. Gilliesii ex habitu formaque foliorum simile, statura tamen majore, foliis cellulis minoribus areolatis margine induratis.

97. B. **ERYTHRONEURON** (*Mitt.*). Dioicum, humile. Folia subrosulata, patula, elliptico-spathulata, acuta, planiuscula, nervo in mucronem brevem ut plurimum recurvum excurrente, marginibusque cellularum seriebus circiter tribus limbum angustum circumductis, purpureis, cellulis oblongis prosenchymaticis, basi laxioribus parenchymaticis; perichætialia interiora minora, angustiora. Theca in pedunculo elongato, sporangio ovali cylindraceo, collo subæquilongo attenuato, pendula, peristomii interni ciliis tribus appendiculatis inter processus æquilongos in membrana ad dentium medium exserta insidentibus.

Hab. Andes Bogotenses, Paramo inter Bogota et Choachi (9000 ped.), *Weir*, n. 171; ad viam inter Tipaquira et Pacho (9400 ped.), *Weir*, n. 371. Andes Quitenses, Quito, *Jameson*; in monte Tunguragua absque fructu, *Spruce*, n. 330 *b*; in monte Guayrapata, *Spruce*, n. 330 *c*; etiam in Andibus, *Humboldt*.

Caulis ½ unciam altus. Folia 2-linearia, fusco-viridia, inferiora rufescentia, marginibus nervoque plus minus intense coloratis.

Habitu *B. capillaris* formis majoribus simile.

98. B. **EHRENBERGIANUM** (*C. Müll. Syn.* i. 255). Dioicum, laxe cæspitosum, elatum, adscendens, apice innovationibus compluribus ramosum, robustum; caulis crassus, usque ad apicem tomentosus, foliis torquescentibus dense foliosus. Folia caulina e basi breviter oblonga latiusculo-acuminata, apice undulata, nervo flavo decurrente et ultra apicem

breviter excurrente cuspidata, inferne margine revoluta, anguste et flavo-marginata, superne remote et flavo-dentata, e cellulis submagnis, utriculo primordiali parietis instar evoluto præditis, viridibus composita; perichætialia longiora, angustiora, pellucidiora, apice madefacta magis torta. Theca longipedunculata, humiditate inclinato-pendula, e collo breviusculo elongato-cylindrica subincurva, fuscidula, operculo conico acuto brevi atro-purpureo, peristomio *Bryi*.

Hab. Mexico, *Ehrenberg*.

Ex habitu speciminibus majoribus *B. torquescentis* haud dissimile, sed multo robustius et altius.—*C. Müll. l. c.*

99. B. RIGIDUM (*Hornsch. in Mart. Fl. Bras. Musc.* 46, Mnium). Humile. Folia in rosulas congesta, patentia, ovali-oblonga, acuta, concava, nervo crassiusculo brevissime excurrente, marginibus recurvis apice breviter serrulatis, limbo e cellularum angustarum seriebus tribus conflato circumducta, cellulis parvis ovali-hexagonis utriculo repletis. Theca in pedunculo elongato, clavato-cylindracea, pendula, operculo conico, peristomii interni processibus ciliis interpositis, in membrana ad dentium exterioris longitudinis ⅔ usque producta impositis.

B. patens, *Wils. in Hook. Lond. Journ.* iii. 155.

Hab. Brasilia, *Gardner*, n. 39; Rio, *Milne*; etiam e Brasilia ex *Herb. Montagne*; Montevideo, *Sellow*.

Caulis ½ unciam altus. Folia lineam longa, viridia, rigida, sicca appressa subtorta. Pedunculus uncialis.

B. andicolæ simillimum.

100. B. DENSIFOLIUM (*Brid.* i. 855). Dioicum, laxe cæspitosum; caulis elongatus, radiculosus. Folia remotiuscula, patentia, elliptico-lanceolata, acuminata, nervo brevissime excurrente, marginibus ad latera reflexis, apicem versus serrulatis, limbo angusto e seriebus cellularum elongatarum circiter 4 conflato circumductis, cellulis ovali-hexagonis, utriculo contracto repletis; comalia longiora, supra medium parum latiora, interiora angustiora magis acuminata. Theca in pedunculo elongato, clavata, pendula incurvatave, operculo conico acuminato, peristomii interni processibus ciliisque æquilongis, in membrana ad dentium medium exserta impositis.

B. Auberti, *Hornsch. in Mart. Fl. Bras. Musc.* t. 2. f. 1.

B. gracilescens, *C. Müll. Syn.* i. 261.

Hab. Andes Quitenses, Quito, *Jameson*; Lucmas in valle Alausi (5000 ped.), *Spruce*, n. 326; Chimborazo, ad arbores (4000 ped.), *Spruce*, n. 327; ad pontem Baños fl. Pastasæ (6000 ped.), *Spruce*, n. 329, 330. Andes Peruvianæ, in monte Campana (4000 ped.), *Spruce*, n. 328. In Peruvia, *Pœppig*, n. 234. Brasilia, Rio, *Milne*; in monte Corcovado, *Gardner*, n. 40, prope Castro ad marginem sylvæ inter gramina (2000 ped.), *Weir*, n. 53, et inter Castro et Jatahy (2000 ped.), *Weir*, n. 106; in locis aliis, *Beyrich*, *Hagendorf*.

101. B. ANDICOLA (*Hook. in Kunth. Syn. Pl. Æq.* 58). Dioicum. Folia in rosulas ut plurimum congesta, patula, oblongo-obovata, acuta, nervo in apiculo parum recurvo excurrente, marginibus ad latera reflexis, superne serrulatis, limbo indistincto e cellularum seriebus circiter quinis composito circumductis, cellulis ovali-hexagonis, utriculo contracto repletis. Theca in pedunculo elongato horizontalis pendulave, clavata, subcurvata, operculo conico.

B. Lechleri, *C. Müll. in Bot. Zeit.* 1855, 416.

Hab. Mexico, in frigidis Tolucæ et Islahuacæ (1330 hexap.), *Humboldt et Bonpland.* Andes Quitenses, in montibus Titaicun (13,000 ped.), *Spruce,* n. 321; Llalla, *Spruce,* n. 322; Cordovasto, *Spruce,* n. 323; Campana, *Spruce,* n. 324; Carguairazo, *Spruce,* n. 325, specimina omnia sterilia, fructiferum autem ex Andibus, *Humboldt in Herb. Hooker,* n. 86, in monte Chimborazo, *Jameson.* Chili, Arique, *Lechler,* forma abbreviata et ibidem forma major innovationibus magis distincte rosulatim foliosis; etiam in scaturiginosis Sichahue in Cordillera de Raneo, forma cauli biunciali, foliis subæqualiter dispositis, *Lechler.*

Caulis ½–¾ unciæ altus. Folia ½-2-linearia, viridia, sicca appressa subtorta, rigida. Pedunculus uncialis.

Species rigida *B. leptothecio* Tayl. affinis.

102. B. ROSULATUM (*C. Müll. in Bot. Zeit.* 1856, 416). Dioicum, humillimum, sed robustum, ex apice rosulato semel proliferum, vel ramulis brevissimis rosulatis innovans, basi tomentosum, apice solum foliosum. Folia in rosulam congesta, humore discum planum sistentia, siccitate erecto-conferta, robusta, flavicantia, late oblongo-ovata, acumine brevi reflexo coronata, e basi usque ad acumen lato-revoluta, apice serrato-dentata, e cellulis incrassatis flavioribus veluti marginata, nervo valido flavo in cuspidem brevem excedente percursa, concava, ubique e cellulis densis parvis chlorophyllosis areolata; perichætialia multo minora, angustiora, e reliquis caulinis simillima. Theca in pedunculo flexuoso breviusculo purpureo pendula, cylindracea, longiuscula, subcernua, brunneo-badia; peristomii dentes externi incurvi, robusti, longi, interni lati valde hiantes, ciliis ternis valde appendiculatis interjectis.

Hab. Mexico, prov. Mechoacan, Cerro San Andres, *Chrismar.*

Br. rosei (Americæ sept. et Europæ) quasi diminutivum, characteribus laudatis facile distinguendum. *Br. mexicano* quidem affine, sed caule semel prolifero, foliis breviter cuspidatis notisque reliquis longe refugiens.

103. B. GRANDIFOLIUM (*Tayl. in Hook. Lond. Journ.* vi. 336, Mnium). Caulis plerumque interrupte foliatus, radicellis tomentosus. Folia rosulata, late ovali-spathulata, mucrone parvo recurvo, planiuscula, patula, inferiora concava erecto-appressa, nervo percurrente, limbo e seriebus cellularum angustissimarum circiter 7 marginata, superne denticulis brevibus remotiusculis serrulata, inferne reflexa, cellulis oblongo-hexagonis, utriculo contracto repletis, parietibus angustis; perichætialia minora, an-

gustiora. Theca in pedunculo elongato horizontalis declinatave, elongate oblonga, subæqualis, operculo conico acuminato; peristomii interni processibus ciliis appendiculatis interpositis, in membrana ad $\frac{1}{3}$ dentium longitudinis exserta impositis.

Hab. Venezuela, Galipan, *Crüger*. Andes Bogotenses, in collibus prope Bogota inter frutices vulgare (9200 ped.), *Weir*, n. 122; in declivibus inter Guaduas et Villeta (7000 ped.), *Weir*, n. 340. Chapinero (2700 metr.), *Lindig*. Andes Quitenses, in montibus Pichincha et Chimborazo, *Jameson*; Chimborazo inter frutices, *Spruce*, n. 331; Pichincha, *Spruce*, n. 334; Pangor, *Spruce*, n. 333; Llalla, *Spruce*, n. 332; Tunguragua loco Alysul, *Spruce*, n. 335.

Caulis 1–4 uncias altus. Folia 3-linearia, latitudine $1\frac{3}{4}$-linearia, viridia, nitida, seniora luteo-fusca, sicca contracta. Pedunculus $1–1\frac{1}{2}$-uncialis. Theca cum collo 2–3-linearis.

Species *B. roseo* Schreb. affinis et habitu conveniens, foliis interdum rosulatim congestis interdum per caulis longitudinem æqualiter dispositis distincte limbatis.

In its general appearance this species seems to correspond more nearly with the European states of *B. roseum* than with those collected by Drummond in North America.

104. B. GOUDOTII (*Hampe in Ann. Sc. Nat.* ser. 5. iv. 340). Dioicum, dense cæspitosum, tomento ferrugineo inferne connexum, 2–3-unciale, lutescenti-viride; caulis erectus, superne diviso-ramosus, subfastigiatus, ramis subappressis brevibus, apice anguste rosulatis. Folia inferiora tomento interrupta, flaccide accumbentia, superiora erecto-patula, plicato-striata, sicca corrugata, humida lævigata, plus minus concava, latissime obovato-rotundata, subcochleariformia, margine basi anguste versus apicem latius limbata, limbo superne remote spinuloso-dentato, nervo rufescente basi crasso opaco sensim attenuato percursa cum limbo confluente; perichætialia apice reflexo-cuspidata, tota flavescenti-diaphana, cellulis basilaribus laxe pentagono-oblongis, versus apicem sensim minoribus, noduloso-clausis chlorophylloso-striatis. Seta rubens, erecta, apice reclinata. Theca brevicollis, oblongo-pyriformis, pendula, operculo umbonato-conico acuto rubro.

Hab. Andes Bogotenses, Tolima ad nives, *Goudot in Herb. Mus. Paris.*

A *B. grandifolio* differt statura paulo minore, caule minus rosulato et compactiore, foliis brevioribus minus acuminatis latius limbatis et theca brevicolli.—*Hampe, l. c.*

105. B. LINDIGIANUM (*Hampe in Ann. Sc. Nat.* ser. 5. iv. 340). Dioicum, dense aggregatum, humile, proliferum, basi et internodiis fusco-tomentosum, rufescenti-viride. Folia dense rosulata, concava, late oblongo-ovata, marginata, limbo basi angusto, superne latiore, dentato-serrato, flavescente, nervo flavido percursa superne cum limbo confluente,

cuspidata; cellulis basilaribus latioribus oblongo-pentagonis, cæteris paulo minoribus, rhomboideis. Archegonia paraphysis numerosis circumdata. Cætera desunt.

Hab. Andes Bogotenses, Guadelupe (2900 metr.), *Lindig.*

Inter *B. grandifolium* et *B. Goudotii* quasi intermedium ab iis humilitate, caule attenuato apice condensato-rosulato et tomento purpureo satis differt.—*Hampe, l. c.*

106. B. BEYRICHIANUM (*Hornsch. in Mart. Fl. Bras. Musc.* 45, Mnium). Caulis inferne radiculosus, tomentosus. Folia in rosulas congesta, inferiora multo minora, superiora patula, late obovata subspathulato-elliptica, apiculo parvo terminata, planiuscula, nervo percurrente, marginibus superne spinuloso-serratis, cellulis ovali-hexagonis limitibus angustis, utriculo contracto repletis; perichætialia oblongo-elliptica acuminata. Theca in pedunculo elongato cylindracea, inclinata, collo sensim attenuato subarcuato, operculo conico acuminato, peristomii interni processibus ciliis appendiculatis interpositis, in membrana ad medium usque dentium externi producta impositis.

Hab. Columbia, *Moritz.* Andes Bogotenses, ad viam inter Marta et Bucamaranga (6500 ped.), *Weir,* n. 422; inter sylvarum margine prope Bucamaranga (7000 ped.), *Weir,* n. 151. Andes Quitenses, Puente de Baños, in fruticetis umbrosis, *Spruce,* n. 336, et forma gracilior, *Spruce,* n. 337; Tavalosos, *Spruce,* n. 338; Chimborazo, *Spruce,* n. 239; Tunguragua, *Spruce,* n. 340; Lucmas, *Spruce,* n. 341. Andes Peruvianæ, Tarapoto in umbrosis sylvarum, *Spruce,* n. 343; in Cordillera Andium, *Humboldt.* Brasilia, *Beyrich*; S. Paulo, in sylvis prope Itu (2200 ped.), *Weir,* n. 32; Rio de Janeiro, *Milne, Gardner*; Chili, *Pœppig.*

Caulis 1–4-uncialis, simplex vel parce ramosus. Folia 3–4 lineas longa, 1½ lineam lata, siccitate valde contracta, directione immutata, æneo-viridia, seniora rufescentia, vel per caulis longitudinem vel rosulatim congesta, interrupte comantia.

Species colore in foliis junioribus subglauco pallide viridi deinde æneo ab affinibus statim dignoscitur, forsan cum *B. Commersonii,* Schwægr. t. 80, ex ins. Bourbon et cum *B. umbraculo,* Hook. Musc. Exot. t. 133, ex Africa australi conjungenda.

54. AULACOMNION, Schwægr. iii. i. 1.

Musci humiles vel elati. Folia angusta, e cellulis abbreviatis firmis areolata. Thecæ erectæ vel demum horizontales, peristomio perfecto instructæ. *Habitatio* ad terram et in paludibus.

Sect. 1. LEPTOTHECA. *Theca erecta, peristomii interni ciliis singulis inter processus angustos in membrana brevi impositis.*

Species unica .... 1. *A. Gaudichaudi.*

Sect. 2. EUAULACOMNION. *Theca inclinata, demum horizontalis, peristomii interni processibus latis ciliis interpositis in membrana altius exserta insidentibus.*

Species unica .... 2. *A. venezuelanum.*

Sect. 1. *Leptotheca*, Schwægr. ii. pars 2. 135.

1. A. GAUDICHAUDI (*Schwægr. l. c.* t. 137). Cæspitosum, basi radicellis rufis intertextum; caulis humilis, simplex vel infra florem innovationibus divisus. Folia patentia, inferiora minora ovata, superiora oblongolanceolata, comalia superiora lanceolata, omnia nervo concolori in acumen pungens excurrente subcarinata, margine hic illic subrecurva, apice dentata, cellulis ubique parvis rotundis, limitibus pellucidis cartilagineis, firmis; perichætialia lanceolata, subulato-attenuata, cellulis inferioribus angustis elongatis firmis. Theca in pedunculo elongato erecta, cylindracea, plicata, operculo conico brevi; peristomium parvum dentibus pallidis, internum processibus angustis ciliis in unum angustum coalitis obscuris, in membrana usque ad ¼ dentium longitudinis exserta impositis.

Brachymenium? ovatum, *Hook. f. et Wils. Crypt. Ant.* t. 153. f. 4.

Hymenodon ovatus, *C. Müll. Syn.* ii. 557.

Hab. Ins. Falkland, *J. D. Hooker.*

Caules fertiles semiunciam alti. Folia pallide viridia, difficile humectata, siccitate subincurva. Pedunculus fere uncialis.

Habitu et statura *A. androgyno* Europæ et Americæ septentrionalis simillimum.

Sect. 2. *Euaulacomnion.*

2. A. VENEZUELANUM (*Dozy et Molk.*). Cæspitosum; caulis inter folia breviter tomentosus. Folia patentia, inferiora ligulata obtusa concava, marginibus superne incurvis, superiora ligulato-lanceolata, acuta, nervo infra apicem evanido carinata, margine inferne recurva reflexave subserrulata, apice denticulata, cellulis parvis rotundatis pellucidis utrinque medio papilliferis.

Hab. Venezuela (ex *Herb. Dozy et Molkenboer*).

Caulis 1–2 uncias altus. Folia 2-linearia, fusca, sicca appressa.

Specimina sterilia ab *A. palustri* (Americæ septentrionalis et Europæ) discrimina nulla ostendunt.

55. DREPANOPHYLLUM, Rich.; Hook. Musc. Exot. t. 145.

Musci caulibus erectis adscendentibusve parum divisis. Folia falciformi-arcuata, nervo uni lateri propinquiore percursa, cellulis firmis parvis areolata. *Habitatio* ad ligna et in saxis.

Folia nitida .... 1. *D. fulvum.*

Folia obscura .... 2. *D. viride.*

1. D. FULVUM (*Rich.*; *Hook. Musc. Exot.* t. 82 et 145). Caulis elongatus, subsimplex ramosusve, radicellis inconspicuis. Folia nitida, tetrasticha, distiche imbricata, arcte compressa, arcuato-recurva, ligulata, acuminata, nervo percurrente basi in folii medio, inde in arcu medio ad latus inferius attingente exinde ad acuminis medium redeunte, marginibus infra apicem serrulatis, cellulis inferioribus anguste ellipticis, superioribus oblongo-ovalibus, omnibus pellucidis lævibus; perichætialia longiora, conformia. Theca in pedunculo elongato, globoso-pyriformis, ore parvo.

Hab. Ins. Hispaniola, *Thuiller*; Demerara, ex *Herb. Arnott*; Surinam, *Weigelt.* Fl. Amazon, Tauaú prope Pará, in sylvis Paraënsibus haud infrequens, *Spruce*, n. 548, 552; fl. Negro ad pedem montis Cocui, *Spruce*, n. 549; Cerro de Canapuna, *Spruce*, n. 550; ad fl. Casiquiari, *Spruce*, n. 551.

Caulis 1–2-uncialis simplex, infra perichætium innovans vel in ramis nonnullis inferne divisus, latitudine foliis inclusis bilineari. Folia aureo-straminea, nitida, inferiora fuscescentia. Pedunculus 7–8-linearis. Theca fusca.

2. D. VIRIDE (*Mitt.*), Caulis procumbens, prolifer, ramosus, parce radiculosus. Folia obscura, compressa, tetrasticha, sublanceolato-ligulata, e basi erectiore arcuata patentia, subplana, apice acuta, nervo in arcu medio ad marginem inferiorem fere attingente, apice in apiculo excurrente, marginibus præcipue superioribus inflexis apice subserrulatis, cellulis parvis rotundatis papillis grossiusculis inspersis; perichætialia longiora, e basi latiore ligulata, apice breviter acuminata, nervo per medium continuo carinata, longitudinaliter subundulata, marginibus recurvis, cellulis basi oblongis.

Hab. Fl. Amazon, Pará, *Spruce*, n. 553; fl. Guamá (v. potius Guainia?), in lapidibus rivuli exsiccati, *Spruce*, n. 554; fl. Negro, San Gabriel, *Spruce*, n. 555; San Carlos, *Spruce*, n. 556. Andes Quitenses, fl. Bombonasa (1300 ped.), *Spruce*, n. 557.

Caulis gracilis, inferne radiculosus, tomentosus, uncialis; rami iterum iterumque innovantes, nonnulli foliis decrescentibus apice corpuscula filiformia in capitulum congesta ferentes. Folia obscure viridia, ob margines inflexos primo visu limbum incrassatum obscurum simulant.

56. EPIPTERYGIUM, Lindberg, emend.

Musci humiles, graciles. Folia verticalia, lata, laxe areolata sed rigidula. Thecæ parvæ, pendulæ, peristomio normali. *Habitatio* ad terram humidam.

Folia limbo marginata	1. *E. Wrightii.*
Folia immarginata	2. *E. immarginatum.*

1. E. WRIGHTII (*Sulliv. in Proceed. Amer. Acad.* 1861, Mnium). Dioicum. Folia inter se remotiuscula, majora plana, obovata, apiculo

brevi terminata, nervo ultra medium evanido, margine cellulis angustioribus intensius coloratis haud incrassatis limbata, integerrima, e cellulis elongatis pellucidis parietibus angustis areolata; minora ovato-lanceolata, erecta; perichætialia subæqualia, oblonga. Pedunculus elongatus.

Anisostichium Bakeri, *Mitt. in Journ. Linn. Soc.* vii. 119.

Hab. Ins. Jamaica, *Swartz*, *Wilson*; Cuba, *Wright*.

Caulis ½–1½ unciam altus, ruber, basi parce radiculosus. Folia majora 1½ lineam longa, ⅔ lineam lata, pallide glauco-viridia, nervis marginibusque rubescentibus.

2. E. IMMARGINATUM (*Mitt.*) Caulis elongatus. Folia majora oblongo-ovalia, breviapiculata, minora ovali-lanceolata, omnia nervis infra apicem evanidis, margine integerrima; perichætialia inæqualia, loriformilanceolata, apice serrulata. Theca in pedunculo elongato, parva, ovalis, pendula.

Hab. America centralis, Guatemala, *Godman et Salvin*.

Caulis unciam altus, cum foliis lineam latus. Folia pallide viridia. Pedunculus 5-linearis.

E. Wrightii simile, sed foliorum cellulæ angustiores et margines foliorum haud limbati. Ambæ species *E. Tozeri* (*Bryo* auctorum) Europæ omnino congruentes sed majores.

57. MNIUM, Dill., Linn.

Musci e robustioribus, caulibus sæpe elongatis. Folia magna, lata, cellulis parvis hexagono-rotundatis parietibus crassis areolata. Thecæ longe pedunculatæ, magnæ, pendulæ, peristomio perfecto instructæ. *Habitatio* ad terram, arbores et saxa.

M. ROSTRATUM (*Schrad. Bryol. Europ.*t. 7). Synoicum; caulis fertilis erectus, inferne tomentosus. Folia inter se remotiuscula, late oblonga, obtusa retusave, mucrone minuto, basi longe angusteque decurrentia, patula, recurva, flexuosa, nervo infra apicem desinente vel percurrente, marginibus limbo cartilagineo serrulato circumductis, cellulis parvis rotundis hexagonis; comalia longiora. Pedunculi sæpe aggregati, elongati. Theca oblonga, nutans, operculo rostrato; peristomium normale. Caulis sterilis arcuatus, proliferus, apice radicans; folia disticha, expansa.

Hab. Venezuela, *Funck et Schlim*, n. 365. Andes Novo-Granatenses, in sylvis supra Pacho (5700 ped.), *Weir*. Andes Quitenses, Quito, *Jameson*; Tunguragua (7000 ped.), *Spruce*, n. 379, et (8000 ped.), *Spruce*, n. 383; Antombos (5000 ped.), *Spruce*, n. 380; Baños (6000 ped.), *Spruce*, n. 381; Llalla (8000 ped.), *Spruce*, n. 382; Guayrapata (8000 ped.), *Spruce*, n. 384; Chimborazo (4000 ped.), *Spruce*, n. 385. Brasilia, ex *Herb. Montagne*; in sylvis ad fl. Teete (1700 ped.), *Weir*, n. 40; in Sierra de Morretes (2200 ped.), *Weir*, n. 103.

Caulis fertilis $\frac{1}{2}$–1 unciam altus. Folia 2–3 lineas longa, latitudine linearia, viridia. Pedunculus $\frac{3}{4}$–1 unciam longus. Caulis sterilis procumbens et repens, elongatus, radicans.

58. MIELICHHOFERIA, Hornsch. Bry. Germ. 179.

Musci caulibus gracilibus abbreviatis vel elongatis parum ramosis. Folia parva, pellucida, tenera sed firma, sæpe nitida. Thecæ sæpe gibbæ, peristomio duplici vel simplici interno vel externo, vel nullo. Flores ut plurimum synoici. *Habitatio* ad terram in regionibus altioribus.

Sect. 1. EUMIELICHHOFERIA. *Peristomium nullum v. simplex internum.*

Peristomium nullum.	
Folii nervus excurrens	1. *M. Schiedeana.*
Folii nervus infra apicem evanescens.	
Theca suboblonga	2. *M. nana.*
Theca obovata pyriformis	3. *M. pusilla.*
Theca elliptico-clavata	4. *M. clavellata.*
Peristomium simplex internum.	
Theca sporangio ovali collo pyriformi attenuato	5. *M. longiseta.*
Theca subcylindracea extus curvata	6. *M. campylocarpa.*
Theca clavata	7. *M. brevicaulis.*
Theca pyriformis erecta	8. *M. punctulata.*
Theca ovali-cylindrica	9. *M. andina.*
Theca oblongo-cylindrica	10. *M. Lindigii.*
Theca oblonga	11. *M. pleurogena.*
Theca obovato-pyriformis	12. *M. bogotensis.*

Sect. 2. LEPTOCHLÆNA. *Peristomium duplex.*

Theca elongata pyriformis	13. *M. graciliseta.*
Theca cylindracea	14. *M. chilensis.*

Sect. 3. HAPLODONTIUM. *Peristomium simplex externum.*

Peristomii dentes æquidistantes.	
Folia ovata acuta	15. *M. Jamesoni.*
Folia ovato-lanceolata	16. *M. argentifolia.*
Peristomii dentes per paria approximati.	
Folia anguste oblongo-lanceolata	17. *M. megalocarpa.*
Folia ovata acuta	18. *M. diplodonta.*

Sect. 1. *Eumielichhoferia.*

1. M. SCHIEDEANA (*C. Müll. Syn.* i. 230). Pusilla, basi densissime cæspitosa; caulis fertilis basi tenerrimus nudiusculus, apice densissime gemmiformi-foliosus. Folia perichætialia lanceolata, longe acuminata,

acuta, subdenticulata, tenerrima, obsoletinervia. Innovationes cauli fertili subsimiles, foliis lanceolatis, nervo tenui flexuoso excurrente longe et tenuissime cuspidatis tenerrimis subintegris. Theca breviter pedunculata, clavato-ovalis, parva, angusta, nutans, operculo conico acuto parvo; stoma columella vix exserta acuta, vix clausum.—*C. Müll. l. c.*

Pohlia minor, *Hornsch.*

Hab. Mexico, in monte Orizaba, *Deppe et Schiede*, n. 1078, ex parte.

2. M. NANA (*Tayl. in Hook. Lond. Journ.* vii. 191, Schizhymenium). Humilis, compacte cæspitosa. Folia erecto-patentia, ovato-lanceolata, acuminata, nervo sub apice evanido, marginibus superioribus serrulatis, cellulis elongatis angustis; perichætialia ovata, acuminata. Theca in pedunculo brevi, nutans, suboblonga inæqualis, extus paululum curvata, operculo conico.

M. nana, *C. Müll. Syn.* ii. 565.

Hab. Andes Quitenses, in monte Chimborazo et prope Quito, *Jameson*.

Caulis 3-linearis. Folia ½ lineam longa, pallide lutea, flavescentia, nitida. Pedunculus 3-linearis.

3. M. PUSILLA (*Hook. et Wils. in Hook. Lond. Journ.* ii. 154, Leptostomum). Humilis, cæspitosa. Folia erecto-patentia, imbricata, ovato-lanceolata, acuminata, concava, nervo infra apicem desinente, marginibus superioribus serrulatis, cellulis basilaribus oblongis rectangulis, superioribus ellipticis; perichætialia conformia. Theca in pedunculo brevi, obovata, pyriformis, incurvata, pendula, operculo depresse conico; annulus latus.

M. microstoma, *Hampe in Ann. Sc. Nat.* ser. 5. iv. 335.

Hab. Andes Bogotenses, Guadelupe (3100 metr.), *Lindig*; in descensu a Paramo ad Choachi (9000 ped.), *Weir*. Brasilia, in summis montibus Sierra dos Orgaos, *Gardner*, n. 30.

Caulis 3 lineas altus. Folia ⅓ lineam longa, luteo-viridia. Pedunculus 2-linearis. Theca lineam longa, rufa.

M. nanæ similis, sed minor, rigidior et theca pendula, sporangio æquali, collo contracto curvato, operculo minuto.

4. M. CLAVELLATA (*Mitt.*). Humilis, cæspitosa. Folia erecto-patentia, lanceolata, anguste acuminata, nervo sub apice evanido, marginibus serrulatis, cellulis elongatis angustis; perichætialia interna subulato-acuminata. Theca in pedunculo elongato horizontalis nutansve, elliptico-clavata, sporangio ovali, collo æquilongo, ore parvo; annulus persistens.

Hab. Andes Bogotenses, Paramo inter Bogota et Choachi (10,000 ped.), *Weir*, n. 223.

Caulis 3 lineas altus. Folia ½ lineam longa, pallide luteo-viridia, rufescentia, subnitida. Pedunculus 5 lineas longus. Theca cinnamomea.

5. M. LONGISETA (*C. Müll. Syn.* i. 236). Humilis. Folia erecto-patentia, anguste lanceolata, acuminata, nervo percurrente, marginibus

apicem versus serrulatis, cellulis angustis elongatis; perichætialia ovata acuminata. Theca in pedunculo elongato inclinata, horizontalis pendulave, sporangio ovali, collo pyriformi attenuato ut plurimum inæquali. Theca extus curvata; operculum conicum depressum; peristomium processibus angustis in membrana breviter exserta impositis.

Hab. In jugis Andium, regione temperata, *Humboldt et Bonpland.* Andes Quitenses, in montibus Chimborazo, in rivuli ripis (10,000 ped.), *Spruce,* n. 246; Carguairazo (11,000 ped.), *Spruce,* n. 247; Pichincha (11,000 ped.), *Spruce,* n. 248; Quito (10,000 ped.), *Spruce,* n. 249.

Caulis ½ unciam altus. Folia ¾ lineæ longa, viridia, lutescentia, nitida. Pedunculus uncialis. Theca 1½ lineam longa.

6. M. CAMPYLOCARPA (*Hook. et Arn. in Hook. Ic. Pl.* t. 136, *Weisia*). Humilis, cæspitosa. Folia erecto-patentia, imbricata, ovato-lanceolata, acuta, concava, margine plana, a medio ad apicem usque serrulata, nervo sub apice evanido, cellulis ellipticis; perichætialia conformia. Pedunculus elongatus. Theca nutans, subcylindracea, extus curvata, operculo conico, peristomii processibus angustis membranæ brevi impositis.

M. campylotheca, *C. Müll. Syn.* i. 231.

Hab. Andes Peruvianæ, Suruchucho, *Jameson*; Mexico, in monte Orizabæ vulcanico, *Deppe et Schiede,* n. 1078 ex parte ex *C. Müll.*

Caulis ½-uncialis. Folia ½ lineam longa, lutea, nitida. Pedunculus ½–1 unciam longus.

7. M. BREVICAULIS (*Hornsch. in Mart. Fl. Bras. Musc.* 8, t. 1. f. 2). Humilis, cæspitosa. Folia erecto-patentia, lanceolata, subacuminata, nervo infra apicem evanido, marginibus superioribus serrulatis, cellulis elongatis, basilaribus brevioribus; perichætialia acutiora. Theca in pedunculo elongato inclinata, clavata, collo sensim attenuato, operculo conico mamillato, peristomii processibus angustis carinatis in membrana breviter exserta impositis.

Hab. Andes Novo-Granatenses, Paramo de Ruiz, *Purdie,* et sub nomine *Bryi turbinati,* var. *minoris* ex *Humboldt in Herb. Hooker*; ad viam inter Pacho et Tipaquira (9000 ped.), *Weir,* n. 303. Brasilia, Montevideo, *Sellow*; Chili, *C. Gay.* In America australi, *Lobb.*

Caulis 3–6 lineas altus. Folia ½ lineam longa, viridia, nitida. Pedunculus 4–8 lineas longus.

8. M. PUNCTULATA (*Mitt.*). Folia ramorum sterilium elliptica, nervo sub apice evanido, marginibus apicem versus serrulatis, cellulis elongatis angustis; perichætialia ovata acuminata, nervo tenui evanido. Theca in pedunculo longissimo pallide rubro, pyriformis, erecta, collo turgido, operculo conico satis magno, peristomii processibus angustis linea media exaratis punctulatis, basi in membrana brevi exserta impositis, annulo lato composito.

Hab. Andes Quitenses, Quito, *Jameson.*

Caulis ½-uncialis. Pedunculus 1½–2-uncialis. Theca 2-linearis.

Habitu coloreque *M. longisetæ* similis; theca tamen magis pyriformis et in speciminibus omnibus ut videtur erecta.

9. M. ANDINA (*Sulliv. U. S. Expl. Exp.* 1859, 11, t. 8). Pusilla, cæspite denso; caulibus innovando ramosis clavatis. Folia densissime imbricata, lanceolata, acuminata, superne serrata, evanido-costata, bryoideo-areolata. Capsula ovali-cylindrica, recta vel curvata, brevicolla, annulata, pendula, conico-operculata, pedicello longiusculo flexuoso, peristomii dentibus tenuibus linearibus remote articulatis.

Hab. Andes Peruvianæ (15,000 ped.).

10. M. LINDIGII (*Hampe in Linnæa,* xxxi. 520). Humilis, pallide flavescens, nitens, basi fusco-tomentosa, ramis fertilibus brevissimis, innovationibus gracilibus trilinearibus subclavatis, inferne laxe, superne densius foliosis. Folia caulina inferiora minora intense flavescentia, superiora pallide flavescentia lanceolata acuta apice denticulata, nervo rufescente supra medium evanescente diaphano, cellulis anguste trapezoideis sublinearibus ad basin folii subparallelogrammicis magis coloratis flavidis; perichætialia minora, ovato-lanceolata, denticulata. Seta gracilis, elongata, fere uncialis, parum flexuosa, apice inclinata curvata. Theca subhorizontalis, obliqua, oblongo-cylindrica, operculo brevi conico obtuso, dentibus peristomii subulatis articulatis linea media notatis conniventibus diaphanis, annulo persistente cinctis.

Hab. Nova Granata, Cipacon (2600 metr.) ad terram, *Lindig,* n. 2157.

M. pleurogenæ Mont. affinis, differt foliis apice denticulatis thecaque angustiore longiseta, et peristomii indole. Ab *M. Breutelii* Schimp. (Africæ austr.) et *M. australi* Hampe, ex habitu æmula, inflorescentia hermaphrodita certe distat.—*Hampe, l. c.*

11. M. PLEUROGENA (*Mont. in Ann. Sc. Nat.* ser. 3. iv. 117). Caulis erectus, dense radiculosus, innovationibus ramosus. Folia imbricata, ovato-lanceolata integerrima, nervo sub apicem evanido, inferiora minuta. Caulis fertilis basilaris, lateralis brevissimus. Folia perichætialia apice dentata. Theca inclinata, oblonga, uno latere basin versus amplior; peristomii dentes lineares apice trabeculati conjuncti; operculo convexo-conico brevissimo; annulus simplex.—*C. Müll. Syn.* i. 233.

Hab. Chili australis, *C. Gay.*

12. M. BOGOTENSIS (*Hampe in Ann. Sc. Nat.* ser. 5. iv. 335). Cæspitosa, expansa, humilis, pallide flavescens; caulis fructiferus radiculis brevissimis, foliis perichætialibus in gemma congestis, parvis, ovato-lanceolatis, patulis, intense coloratis, denticulatis; ramis vel innovationibus gracilibus brevibus, 2–3-linearibus, dense foliatis. Folia ramorum erecto-patentia, lanceolata, breviter acuminata, apice remote dentato-serrata vel dentata, nervo crasso flavescente ante apicem folii evanido, cellulis anguste pentagonis elongatis flavescenti-pellucida. Seta ramos sub triplo superans,

flavescens, gracilis, nitida, apice incurvata. Theca parum obliqua, obovato-pyriformis, clavata, basi plicata, pallida, horizontalis vel adscendens vel nutans, operculo basi cingulo rubro notato, umbonato-apiculato; peristomii ciliis inflexis, æquidistantibus, subulatis, torulosis, linea media notatis, flavidis, in membrana carinata connexis.—*Hampe, l. c.*

Hab. Andes Bogotenses (2700 metr.), ad "Barrancas" umbrosas, *Lindig*.

Sect. 2. *Leptochlæna*, Mont. in Ann. Sc. Nat. ser. 3. iv. 105.

13. M. **GRACILISETA** (*Hampe in Linnæa*, xxxii. 130, Leptochlæna). Laxe aggregata, expansa, rufescenti-viridis; caulis fertilis basi gemmiformis brevissimus, innovationibus elongatis fere uncialibus auctus, basi remote apice densius foliatis subteretibus clavatis. Folia lanceolata, cuspidata, superne remote denticulato-serrata, nervo apice evanescente, cellulis linearibus subconformibus diaphana pallescentia. Seta gracillima, caulem fere duplum superans. Theca elongata, pyriformis, adscendens, junior inclinata, adulta erecta parum obliqua, operculo umbonato conico apiculato vel mamillari.—*Hampe, l. c.*

Hab. Andes Bogotenses, Bogota, La Penna (2800 metr.), *Lindig*; in declivibus inter Paramo et Choachi (9000 ped.), *Weir*, n. 181.

Caulis cæspitosus, 2–3 lineas altus. Folia ½ lineam longa, viridia, fulvescentia, nitida. Pedunculus 4–6 lineas longus, interdum uncialis. Theca ⅔-linearis. Peristomium externum dentibus teneris, internum processibus angustis ciliiformibus subæquilongis, in membrana breviter exserta impositis.

14. M. **CHILENSIS** (*Mont. in Ann. Sc. Nat.* ser. 3. iv. 105, Leptochlæna, *et in C. Gay, Hist. Chil. Crypt.* t. 4. f. 1). Monoica, cæspitosa, basi subnuda, apice interrupte comoso-foliosa, erecta, innovationibus plerumque binis infra perichætium enatis fertilibus ramosa. Folia ovato-lanceolata, nervo basi crassiore superne tenui flexuoso excurrente, acuta, paulum flexuosa, subdenticulata, margine paulo revoluta, e cellulis basi laxis superne angustissimis densissimis inanibus areolata, lutescentia, superiora majora in comam densiusculam imbricata. Theca cylindracea, erecta vel inclinata, anapophysata, pedunculo gracillimo flexuoso et operculo conico-acuminato brevissimo prædita.

Hab. Chili, prope S. Jago ad truncos arborum, *C. Gay*.

Antheridia in axillis foliorum floralium sessilia, libera, oblonga, fusca et cum archegoniis floris fœminei intermixta. Flos fœmineus in ramulo apice comoso terminalis, gemmiformis.—*C. Müll. Syn.* i. 237.

Sect. 3. *Haplodontium*, Hampe in Ann. Sc. Nat. ser. 5. iv. 336.
Florescentia dioica.

15. M. **JAMESONI** (*Tayl. in Hook. Lond. Journ.* vi. 331). Humilis, cæspitosa. Folia imbricata, ovata, acuta, nervo percurrente, concava, marginibus superioribus planis apice serrulatis, cellulis elongatis laxis,

basilaribus brevibus oblongo-hexagonis, omnibus parietibus tenerrimis; perichætialia ovato-lanceolata, obtusiuscula. Pedunculus elongatus, apice flexus. Theca sporangio globoso, collo pyriformi attenuato, nutans, operculo ...., peristomii depressi dentibus basi latiusculis linea media exaratis subulatis pallidis.

Haplodontium Jamesoni, *Hampe in Ann. Sc. Nat.* ser. 5. iv. 336.

Hab. Andes Quitenses, in monte Pichincha, *Jameson.*

Caulis lineam altus. Folia ¼ lineam longa, argentea. Pedunculus 4-linearis.

16. M. ARGENTIFOLIA (*Mitt.*). Humilis. Folia erecto-patentia, laxe imbricata, ovato-lanceolata, planiuscula, nervo infra apicem evanido, marginibus a basi fere ad apicem usque reflexis, integerrimis, cellulis elongatis laxis, basilaribus oblongis, omnibus parietibus angustissimis; perichætialia conformia. Theca in pedunculo elongato nutans, sporangio globoso, collo pyriformi attenuato, operculo depresse conico, peristomii depressi dentibus teneris pallidis subulatis; annulus latus, compositus.

Hab. Andes Quitenses, in monte Guayrapata (9000 ped.), *Spruce*, n. 243.

Caulis 2 lineas altus. Folia ½ lineam longa, argentea nitida. Pedunculus ½-uncialis. Theca rufa.

M. megalocarpæ similis, sed foliis marginibus anguste reflexis, limbo minute serrulato et peristomio diversa.

17. M. MEGALOCARPA (*Arn. Disp. Mouss.* 36; *Schwægr.* t. 265). Humilis. Folia in ramis sterilibus erecto-patentia, laxe imbricata, anguste oblongo-lanceolata, apice obtusiuscule acuta, nervo percurrente, marginibus planiusculis apice serrulatis, cellulis angustis elongatis laxis, basilaribus brevioribus, omnibus parietibus angustissimis; perichætialia conformia. Theca in pedunculo elongato inclinata horizontalisve, sporangio globoso, collo attenuato pyriformi, peristomii dentibus basi per paria connatis latis inde subulatis.

Hab. Andes Novo-Granatenses, inter Almaguer et Pasto (1200–1500 hexap.), *Humboldt et Bonpland.*

Caulis 3-linearis. Folia ½ lineam longa, pallida argentea. Pedunculus ½-uncialis.

18. M. DIPLODONTA (*Mitt.*). Humilis, dense cæspitosa. Folia julaceo-imbricata, ovata, acuta, concava, nervo percurrente, marginibus planis apice serrulatis basi recurvis, cellulis elongatis, inferioribus oblongis, omnibus angustissime limitatis; perichætialia lanceolata. Theca in pedunculo elongato nutans, sporangio globoso, collo pyriformi attenuato, operculo conico acuminato, peristomii depressi dentibus sensim a basi angustatis, per paria cohærentibus; annulus latus.

Hab. Andes Quitenses, in monte Pichincha.

Caulis 2–3 lineas altus. Folia ⅓ lineam longa, argentea, inferiora rufescentia. Pedunculus ½-uncialis. Theca rufa.

M. Jamesoni simillima, sed major et peristomio diversa.

59. HYMENODON, Hook. fil. et Wils. in Hook. Lond. Journ. iii. 548.

Musci humiles. Folia parva, cellulis minutis areolata. Thecæ parvæ, erectæ. *Habitatio* ad ligna.

H. ÆRUGINOSUS (*Hook. et Wils. in Hook. Lond. Journ.* iii. 154, Rhizogonium). Caulis gracilis, basi radiculosus. Folia in ramis sterilibus subcompressa, lateralia patentia, oblongo-elliptica, obtusa, planiuscula, nervo pellucido longe excurrente, marginibus ubique crenulatis, cellulis rotundatis utrinque papilliferis; perichætialia ovata lanceolataque, acuminata, tenera, fusca, cellulis elongatis lævibus. Theca in pedunculo rubro, ovali-cylindracea, operculo anguste subulato obliquo.

Hab. Brasilia, Sierra dos Orgaos in caudice filicis arboreæ, *Gardner*, n. 33; Parana, Fazenda de Tucandava (2000 ped), in sylvis humidis ad caudices filicum, *Weir*, n. 65.

Caulis $\frac{1}{2}$ unciam altus. Folia $\frac{1}{3}$ lineam longa, glauco-viridia, sicca appressa, post exsiccationem difficillime emollienda. Pedunculus $\frac{1}{2}$-uncialis.

60. RHIZOGONIUM, Brid. ii. 664.

Musci caulibus simplicibus vel rarissime innovationibus ramosis. Folia firma, nitida vel obscura. Thecæ longe pedunculatæ, peristomio duplici perfecto instructæ. *Habitatio* ad ligna, etiam in saxis.

Sect. 1. PYRRHOBRYUM. *Folia undique inserta, rigida, nervo rigido valido percurrente vel excurrente, marginibusque argute serratis, cellulis parvis rotundis limitibus latis obscuris. Theca cylindrica, plicata, horizontalis.*

Florescentia synoica	1. *R. spiniforme.*
Florescentia dioica	2. *R. mnioides.*

Sect. 2. PHOTINOPHYLLUM. *Folia undique inserta, nervo angusto percursa, cellulis majusculis pellucidis splendentibus areolata. Theca lævis, horizontalis.*

Folia limbata	3. *R. reticulatum.*
Folia immarginata	4. *R. subbasilare.*

Sect. 3. EURHIZOGONUM. *Folia compressa vel in plana verticali disticha, cellulis densis firmis areolata. Theca lævis, horizontalis.*

Species unica	5. *R. Lindigii.*

Sect. 1. *Pyrrhobryum*, Mitten, Journ. Linn. Soc. 1868, 174.

1. **R. SPINIFORME** (*Linn. Sp. Pl.* 1857; *Hedw. Musc. Frond.* 3, t. 25, Hypnum). Synoicum; rami erecti, curvati. Folia rigida, patentia, sicca incurva, lineari-lanceolata, elongata, nervo rigido dorso dentato excur-

rente, marginibus limbo angusto fusco duplicate denticulato circumductis, cellulis parvis rotundis obscuriusculis firmis; perichætialia erecta, basi late rotundato-ovalia, subito acuminata. Theca in pedunculo longissimo, breviter oblonga, inclinata horizontalisve, inæqualis, operculo curvirostro.

Hab. Ins. Jamaica, *Sloane, Wilson*; Cuba, *Wright*, n. 58; Nova Granata, *Funck et Schlim.* n. 1397; in sylvis ad fl. Sogamoza et prope Bogota frequens, *Weir*, n. 144. Brasilia, *Gardner*, n. 126; in prov. S. Paulo et Parana, ad radices truncosque arborum, etiam ad lapides sylvarum vulgare, *Weir*, n. 10.

2. R. MNIOIDES (*Hook. Musc. Exot.* t. 77, Hypnum). Dioicum; caulis erectus. Folia patentia, inferiora ovali-lanceolata, superiora elongate lineari-lanceolata, basi late decurrentia, breviter impressa, nervo dorso dentato percurrente, marginibus limbo obscuro duplicate dentato cicumductis, cellulis omnibus parvis rotundatis obscuris firmis. Fructus e caulis medio enatus; folia perichætialia erecta, basi lata, rotundo-ovalia, concava, subito in subulam elongatam producta. Theca in pedunculo elongato inclinata, deinde arcuata, oblongo-cylindracea, operculo rostrato, peristomii interni processibus ciliis tribus interpositis æquilongis appendiculatis, in membrana ad dentium externi medium exserta impositis.

Hab. Nova Granata, prov. Ocaña (5000 ped.), in sylvis, *Schlim.* n. 645. Andes Chilenses, *Pœppig, Philippi, Germain*; Valdivia et Valenzuela, *Lechler*, n. 422; Colchaque, *Herb. Hooker*; Patagonia, *Lobb.* Fuegia, Staaten Land, *Menzies*; Hermite Island, *J. D. Hooker.*

Caulis 1–2 uncias altus. Folia 3½-linearia, flavo-viridia. Pedunculus 1½–2-uncialis. Theca 1½ lineam longa.

Sect. 2. *Photinophyllum*, Mitt. in Journ. Linn. Soc. 1868, 175.

3. R. RETICULATUM (*Hook. f. et Wils. in Fl. Antarct.* t. 154. f. 5, Hypnum). Folia compressa, lateralia patentia, elongate lanceolata, tenuiacuminata, nervo percurrente, margine limbo apice serrulato circumducta, cellulis oblongo-ellipticis laxis pellucidis, parietibus angustis.

Hab. Fuegia, Hermite Island, *J. D. Hooker.*

Rami unciam alti, latitudine cum foliis 2-lineares. Folia rigidiuscula, pungentia, viridia, pellucida, sicca immutata.

4. R. SUBBASILARE (*Hook. Musc. Exot.* t. 10, Hypnum). Caulis erectus. Folia patentia, oblongo-lanceolata, planiuscula, nervo infra apicem evanido, marginibus superioribus denticulis simplicibus serratis, limbo nullo, cellulis oblongis pellucidis, parietibus angustis; perichætialia lanceolata, acuminata. Theca in pedunculo elongato, cylindracea, horizontalis nutansve, operculo conico.

Hab. Fuegia, Staaten Land, *Menzies*; Hermite Island, *J. D. Hooker.*

Caulis ½–1 unciam altus, inferne innovans. Folia 1½ lineam longa, nitida, pallide viridia. Pedunculus uncialis.

Sect. 3. *Eurhizogonium.*

5. **R. Lindigii** (*Hampe in Ann. Sc. Nat.* ser. 5. iv. 345, Mnium). Humile, pallide virens, fasciculato-ramosum, ramis simplicibus complanatis curvatis adscendentibus basi attenuatis subnudis. Folia inferiora minora ovata, superiora disticha, elliptico-lanceolata, immarginata, superne inciso-serrata, nervo flavescente percursa, cuspidata, cellulis rotundatis flavescenti-diaphana.—*Hampe, l. c.*

Hab. Andes Bogotenses, Guadelupe (2900 metr.), in ligna putrida, *Lindig.*

R. novæ-hollandiæ Brid. proximum.—*Hampe, l. c.*

A few barren stems of a species to all appearance not different from *R. bifarium* (Hook. Musc. Exot. t. 57, Hypnum) were picked from some Mosses which came from Herb. R. Brown, and were supposed to have been collected in Jamaica; but, as nothing further can be ascertained respecting them, the species, if it really occurs in the West Indies, must be left to future explorers.

Tribus XI. HYPOPTERYGIEÆ.

61. Hypopterygium, Brid.

Sect. 1. Lopidium. *Rami in frondem plumæformem elongatam pinnatam producti. Folia cellulis minutis rotundatis areolata.*

Species unica .... 1. *H. plumarium.*

Sect. 2. Euhypopterygium. *Rami in frondem subtriangularem obliquam vel tabulatam expansi. Folia cellulis parvis rotundatis sæpe utriculo contracto repletis areolata.*

Flores monoici.

Folia ramulorum primariorum orbiculari-ovata breviter acuminata. 2. *H. rigidulum.*

Folia ramulorum primariorum ovata breviter acuminata. 3. *H. sylvaticum.*

Folia ramulorum primariorum late ovata acuta. 4. *H. tamarisci.*

Flores dioici.

Folia ramulorum primariorum orbiculari-ovata, apiculata. 5. *H. didictyon.*

Folia ramulorum primariorum incrassate limbata. 6. *H. incrassato-limbatum.*

Folia ramulorum primariorum laxius marginata. 7. *H. nivale.*

Folia ramulorum primariorum late ovata, obtusiuscula, mucrone brevi terminata .... 8. *H. Thouini.*

Sect. 1. *Lopidium*, Hook. f. et Wils.

1. H. PLUMARIUM (*Mitt.*). Monoicum; rami plumæformes, pinnati. Folia patentia, imbricata, anguste oblongo-lanceolata, stipuliformia a basi latiore ovato-lanceolata, patula, omnia nervo in mucronem excurrente instructa, limbo superne serrulato marginata, cellulis parvis rotundis; perichætialia erecta, subulata, attenuata, integerrima. Theca in pedunculo brevi crasso cygneo-flexo, ovalis, æqualis, operculo subulato, peristomii dentibus teneris, interni processibus angustis, in membrana brevissima impositis.

Hab. Brasilia, Parana, in sylvulis "çapaos" planitierum "campos" ad arborum truncos, etiam Fazenda do Lageado prope Corritiba (2000 ped.), *Weir*, n. 1. Ins. Chiloe, *Lobb*; ins. Auckland, *J. D. Hooker*.

Rami 3-unciales, latitudine cum foliis 1½-lineares. Folia pallide viridia, cartilaginea, lutescentia. Pedunculus 2-linearis.

H. concinno simile, et flexura pedunculi etiam conveniens, sed florescentia et peristomio diversum.

Sect. 2. *Euhypopterygium.*

2. H. RIGIDULUM (*Mitt.*). Stipes foliis latissime cordato-ovatis acuminatis recurvis nervo medio evanido integerrimis, ramis in frondem oblongam subtriangularem dispositis. Folia nervo medio evanido, limbo angusto superne serrulato, cellulis rotundatis, utriculo vix conspicuo, stipuliformia, patula, orbiculata, nervo in mucronem excurrente, ramulina ovata acutiora denticulata; perichætialia erecta, subulato-acuminata, apicibus serrulatis. Theca in pedunculo elongato, ovalis, horizontalis, operculo subulato, peristomii dentibus subulatis angustis, interni processibus carinatis ciliis brevioribus interpositis, in membrana ad dentium medium exserta impositis.

Hab. Andes Bogotenses, in sylvis prope Bucamaranga et Pacho (6000–7000 ped.) frequens, *Weir*, n. 348.

Stipes uncialis, basi radiculosus, ramis in frondem unciam latam expansis. Folia luteo-viridia. Pedunculus ½-uncialis.

H. sylvatico robustius, ab *H. tamarisci* rigiditate et foliis in stipite recurvis stipuliformibus patentibus rameis latioribus cellulis minoribus recedit.

3. H. SYLVATICUM (*Mitt.*). Stipes brevis, foliis late subdeltoideis ovatis apiculatis nervo medio evanescente, superne in frondem oblongo-triangularem divisus. Folia ramea nervo infra apicem evanido, limbo superne pauci denticulato, cellulis rotundis parvis utriculo repletis; stipuliformia orbiculata, nervo in mucronem excurrente; ramulina argutius serrulata, acutiora; perichætialia erecta, ovata, acuminata, integerrima. Theca in pedunculo elongato, ovalis, horizontalis nutansve, operculo subulato, peristomii dentibus subulato-attenuatis, interni processibus æqui-

longis carinatis, ciliis brevioribus interpositis, in membrana usque ad medium dentium exserta insidentibus.

Hab. Venezuela, *Funck et Schlim.* n. 356; Caracas, *Birschel.* Andes Peruvianæ, in monte Guayrapurina ad corticem (3000 ped.), *Spruce*, n. 1490. Brasilia, S. Catharina, *Macrae*; Sierra dos Orgaos, *Gardner*, n. 90; Parana et S. Paulo, in sylvis passim ad arbores et lapides (1500–2200), *Weir*, n. 55.

Stipes vix unciam altitudine attingens, inferne radicellis appressis vestitus, superne in frondem latitudine circiter unciam metiente divisus. Rami latitudine cum foliis 1½-lineares. Folia viridia, in aqua colorem luteo-viridem induentia. Pedunculus 8-linearis.

4. H. TAMARISCI (*Sw.*, Hypnum; *Hedw. Musc. Frond.* t. 51, Leskea). Stipes foliis latis cordato-ovatis acuminatis in frondem subtriangularem obliquam superne divisus. Folia ramea (e rami primarii medio) late ovata, acuta, nervo supra medium evanido, limbo anguste superne serrulato, cellulis parvis ut plurimum utriculo repletis; stipuliformia orbiculari-ovata, apiculata, nervo ultra medium obsoleto; ramulina subacuminata; perichætialia erecta, subulata, acuminata. Theca in pedunculo elongato, ovalis, horizontalis, operculo subulato obliquo.

H. brasiliense, *Sulliv. Amer. Expl. Exp.* 26, t. 26.

Hypnum scutellatum, *Tayl.*

Hab. Ins. Jamaica, *Swartz, Wilson*; Cuba, *Wright*, n. 130. Andes Bogotenses, in sylvis inter Bucamaranga et Pacho (6000–7000 ped.) frequens, *Weir*, n. 348. Andes Quitenses, *Jameson*; in monte Guayrapata (8000–9000 ped.), *Spruce*, n. 1488; in saxis umbrosis montis Tunguragua (7000 ped.), *Spruce*, n. 1489; etiam in Andibus absque loco speciali, *Humboldt.*

Stipes 1–2-uncialis, inferne tomentosus, superne in frondem diametro circiter 1½-uncialem flaccidam divisus, ramis latitudine cum foliis 1½-linearibus.

5. H. DIDICTYON (*C. Müll. Syn.* ii. 9). Stipes brevis, radiculoso-tomentosus, foliis appressis orbiculari-ovatis apiculatis integerrimis nervo obsoleto evanido, superne in frondem parvam triangularem horizontalem divisus. Folia e ramo primario orbiculari-ovata, apiculata, nervo sub apice evanido, margine limbo subintegerrimo, stipuliformia suborbiculata, nervo in apiculo excurrente, subintegerrima; ramulina ovata, acuta, marginibus superne denticulatis, cellulis parvis rotundatis; perichætialia ovata acuminata.

Hab. Chili, Valparaiso, ex *Herb. De Notaris*; prope Morro Gonzales, ad truncos, *Lechler*, n. 595. Fuegia, Hermite Island, *J. D. Hooker.*

Stipes uncialis, inferne tomento denso obtectus, superne in frondem diametro ½-uncialem divisus, rami cum foliis latitudine 1½-lineares. Folia viridia flavescentia.

H. Thouini minus, foliis minus rigidis.

6. H. INCRASSATO-LIMBATUM (*C. Müll. Syn.* ii. 8). *H. laricino* simillimum, sed paulo robustius, folia e cellulis multo densioribus minoribus magis incrassatis et pachydermibus areolata, latius incrassato-limbata, superne denticulata, stipulæformia latiora, omnia utriculo primordiali instructa igitur chlorophyllosa; perichætialia longius acuminata. Thecæ aggregatæ, longe pedunculatæ, nutantes, obovales, turgidæ, operculis cupulatis rubris longe et oblique subulatis; dentes exteriores lati, ciliis binis valde nodosis fragilibus inter dentes internos anguste carinatos tenuiter subulatos positis.—*C. Müll. l. c.*

Hab. Brasilia, ins. Sta. Catharina, ad truncos arborum sylvarum, ad fl. Itajahi in lapidibus sylvarum montosarum, *Pabst.*

7. H. NIVALE (*C. Müll. Syn.* ii. 9). *H. incrassato-limbato* simillimum, sed robustius; folia majora, haud incrassate sed laxius marginata, apice robusta argute serrata, nervo lato constanter in furcam sæpe pluries divisam partito multo longiore, cellulis majoribus minus chlorophyllosis, vel chlorophyllo carentibus; stipulæformia latius cordato-ovata, acumine recto latiusculo, minutius serrata et perfecte marginata obsoletinervia; perichætialia lanceolato-acuminata, enervia, elongate reticulata, convolutacea. Thecæ aggregatæ in penduncùlis longiusculis flexuosis rubris, pallescenti-rufæ, turgide oblongæ, sub ore coarctatæ, operculis cupulatis longe et oblique subulatis; peristomium *H. incrassato-limbati.*—*C. Müll. l. c.*

Hab. Venezuela, in montibus nivalibus Meridæ, *Moritz*, n. 70 et 150.

8. H. THOUINI (*Mont. in Ann. Sc. Nat.* ser. 3. iv. 86). Stipes elatus, foliis appressis obtusis, apice in frondem horizontalem ramis basi convergentibus inde ambitu rotundatam expansus. Folia ramea late ovata, apice obtusiuscula, mucrone brevi terminata, nervo sub apice evanido, limbo hyalino angusto apice denticulato, cellulis parvis rotundatis; stipuliformia subcordato-ovata, obtusiuscule apiculata, nervo excurrente, limbo longius denticulato; ramulina parum angustiora; perichætialia erecta, lanceolata, acuminata, integerrima. Theca in pedunculo brevi, oblongo-cylindracea, nutans, basi tuberculata, subito in pedunculum contracta; peristomii dentes intus valde trabeculati, processibus angustis pertusis, ciliis binis brevioribus, in membrana ad medium usque dentium longitudinis exserta impositis.

Hab. Chili, *Philippi, C. Gay, King*; ad Arique, *Lechler*, n. 594 et 3063; ins. Chiloe, *Lobb*; Fuegia, *Commerson.*

Stipes 1–2-uncialis, in frondem diametro 2-uncialem superne divisus, rami cum foliis latitudine 1½-linearia. Folia rigida, e viridi lutescentia. Pedunculus ½–1-uncialis.

Tribus XII. RHACOPILEÆ.

62. HELICOPHYLLUM, Brid. ii. 771.

H. TORQUATUM (*Hook. Musc. Exot.* t. 41, Anœctangium; *Schwægr.*

t. 103). Caulis prostratus, parum ramosus, latere inferiore radicellis fuscis sæpe valde tomentosus. Folia compressa, lateralia distichacea, humida subverticaliter implana, basi oblique inserta, asymmetrica, seriei in caulis latere superiore ligulata obtusa, seriei inferioris subacuta acutave, serierum superiorum intermediarum mediarumque sæpe indistinctarum breviora, fere omnia implana, paginis interioribus ad caulis latus superius spectantibus, margine superne anguste inferne latius præcipue in caulis latere superiore reflexa, cellulis parvis rotundatis prominulis obscuris areolata; folia serierum in caulis latere inferiore mediarum intemediarumque minora, sublanceolata, subacuminata, cellulis pellucidis areolata, lævia; folia omnia nervo pellucido latiuscule infra apicem desinente subcarinata, limbo cartilagineo angustissimo interdum obsoleto marginata. Perichætia terminalia, solitaria vel plura in ramulis subfasciculatis imposita, foliis longioribus pallidis oblongo-lanceolatis acuminatis erectis appressis, cellulis lævibus oblongis inferne longioribus pellucidis areolatis. Theca immersa, oblonga, fusca, ore calloso rubro nitido, operculo planiusculo umbonato.

Hab. Ins. Jamaica, *Wilson*; Cuba, *Wright*, n. 73. Andes Peruvianæ, Tarapoto ad saxa in fruticetis, *Spruce*. Brasilia ad fl. Amazon, *Humboldt et Bonpland*; Sierra de Sta. Brida, *Gardner*; prope Castro in sylvis ad arbores (2000 ped.), *Weir*, n. 114.

Folia glauco-viridissima, ætate fuscescentia, omnia statu sicco ad caulis latus superius involuta.

Specimina sæpe perichætiis pluribus onusta; fructus autem rarissime ostendunt.

63. RHACOPILUM, Brid.

Musci caulibus pallidis tenuibus. Folia acuta, sicca sursum inflexa involutave. Thecæ cylindraceæ, plicatæ, suberectæ inclinatæve, pedunculis trigonis, calyptris coriaceis subpilosis. *Habitatio* ad terram saxaque et in ligna.

Flores dioici.
  Peristomii interni processus divisi............ 1. *R. polythrincium.*
  Peristomii interni processus indivisi? .... 2. *R. intermedium.*
Flores monoici .... 3. *R. tomentosum.*

1. R. POLYTHRINCIUM (*Spruce, MS.*). Dioicum; caulis prostratus, radicans. Folia divergentia, ovato-lanceolata, nervo concolori in mucronem tenuem excurrente, margine flexuosa serrulata, cellulis parvis rotundis pellucidis, in caulis latere superiore parva triangulari-ovata subulata, nervo longe excurrente; perichætialia a basi late ovata, superne serrulata, subulata, excurrentinervia. Pedunculus elongatus, superne trigonus. Theca elongate cylindracea, subplicata, inclinata, subarcuata, operculo elongate conico acuminato, peristomii dentibus pallidis angustis elongatis, interni processibus per carinam mediam profunde fissis, ciliis tribus inferne

inter se adhærentibus pertusisque æquilongis, calyptra latere fissa sparse pilosa.

Hab. Andes Quitenses, in sylva Canelos (3000 ped.); in monte Tunguragua (7000 ped.), ad Pallatanga (6000 ped.), *Spruce*, n. 1485; in monte Chimborazo (3000–4000 ped.), *Spruce*, n. 1486; in valle Pallatanga (6000 ped.), *Spruce*, n. 1487. In Peruvia, ad Casapi, *Mathews*.

2. R. INTERMEDIUM (*Hampe in Linnæa*, xxxii. 164). Caulis arcte repens, nitidulus, demum elongatus, ramosus, laxe foliatus, ramis subsimplicibus curvatis vel elongatis attenuatis. Folia distiche imbricata, e basi obliqua oblongo-ovata, nervo lutescente percursa, cuspidata, superne muriculato-serrata, cellulis basilaribus subquadratis laxioribus pellucidis, cæteris angulato-rotundatis diaphanis; perichætialia filiformi-cuspidata, subintegerrima; stipularia triangularia, minora, nervo duplo longiore, cuspidata. Seta erecta, uncialis, apice incrassata. Theca elongate cylindrica, adscendens, parum curvata, parce striata, glabriuscula, evacuata lævis, operculo prominente conico-subulato dimidium thecæ metiente, peristomio longo albicante; calyptra conico-subulata, basi latere fissa, lutescens, parce pilosa.

Hab. Nova Granata, in sylva S. Antonio ad ramorum arborum corticem arcte adnatum, demum prorepens, elongatum, pendulum.

Ex habitu *R. spectabilis*, sed folia muriculato-serrata nec argute grosse serrata; ab *R. prælongo* Schimp. differt cellulis foliorum laxioribus diaphanis, nec cellulis minoribus densissimis opacis. Pulcherrima species.—*Hampe, l. c.*

3. R. TOMENTOSUM (*Hedw. Musc. Frond.* 4, t. 19, Hypnum). Monoicum. Folia patentia, oblonga, acuta, nervo concolori in mucronem brevem excurrente, marginibus serrulatis, cellulis rotundatis obscuriusculis, in caulis latere superiore subulata; perichætialia e basi late ovata erecta, subulata, integerrima, nervo percurrente. Theca in pedunculo superne trigono, cylindracea, horizontalis, plicata, ore basique inæqualis, substrumosa, operculo brevirostro, peristomio brevi, interno processibus pertusis ciliis binis trinisve appendiculatis interpositis brevioribus, calyptra latere fissa.

Hab. Ins. Jamaica, *Swartz*; Cuba, *Wright*, n. 74; Nova Granata, *Funck et Schlim.* Andes Bogotenses, in descensu a planitie Bogotensi ad Fusagasugam (6500 ped.), in sylvis, *Weir*, n. 342, 403. Andes Quitenses, in monte Chimborazo (4000 ped.), *Spruce*, n. 1479; in sylvis Llalla (8000 ped.) et Canelos (3000 ped.), Pallatanga (6000 ped.), &c., *Spruce*, n. 1483. Andes Peruvianæ, in monte Guayrapurina (3000 ped.), *Spruce*, n. 1478, ad Lucmas (5000 ped.), *Spruce*, n. 1480; prope Baños (6000 ped.), *Spruce*, n. 1481; in monte Campana ad terram (3000 ped.), etiam ad rivulum Aguashiyacu (2000 ped.), *Spruce*, n. 1484. Brasilia, Rio de Janeiro, *Gardner*, n. 91 et 91 *b*, *Milne*, ad flumen Tiete prope Jahu (1800 ped.), ad terram arboresque, *Weir*, n. 36; ad fl. Parana-Janema (2000 ped.), ad terram in sylvis, *Weir*, n. 105.

Caulis subuncialis, procumbens, ramosus, inferne tomentosus. Folia viridia luteo-viridiave, sicca marginibus involutis. Pedunculus unciam longus, flavus.

Tribus XIII. HOOKERIEÆ.

64. Hookeria, Sm. in Trans. Linn. Soc. ix. 275.

Musci in cæspites crescentes. Thecæ sæpius longe pedunculatæ, operculis subulato-rostratis.

Sect. 1. **Euhookeria.** ***Folia enervia.***
Species unica .... 1. *H. acutifolia.*

Sect. 2. **Amblytropis.** ***Folia binervia, limbo angusto marginata. Theca suberecta.***
Folia lateralia late ovalia, excavata, subito in acumen latiuscule ligulatum apice acuminatum sinuato-contracta.......... 2. *H. setosa.*
Folia lateralia ligulata, latere inferiore ultra medium sinuato-inflexa. 3. *H. hispidula.*
Folia lateralia latissime ovata, sensim flexuoso-acuminata. 4. *H. ovata.*
Folia lateralia late ovata, apiculo breviusculo obliquo terminata. 5. *H. gemmacea.*

Sect. 3. **Cyclodictyon.** ***Folia binervia, limbo angusto marginata. Theca horizontalis.***
Folia integerrima v. in apice tantum apiculi serrulata.
  Folia ovato-acuminata, apice serrata.......... 6. *H. Lindigiana.*
  Folia lateralia ovali-oblonga, in acumen angustum flexuosum producta. 7. *H. capillata.*
  Folia lateralia oblonga, superne undulata, acumine flexuoso. 8. *H. rubriseta.*
  Folia lateralia late ovata, oblique tenuiter flexuoso-acuminata. 9. *H. castanea.*
  Folia lateralia oblonga, acuminata .... 10. *H. marginata.*
  Folia lateralia late oblonga, obtusa, acumine angusto flexuoso. 11. *H. tenella.*
  Folia lateralia ovata, apiculo brevi terminata, integerrima. 12. *H. obscurifolia.*
Folia apicem versus serrulata.
  Folia lateralia ovato-ligulata, acuta acuminatave. 13. *H. humilis.*
  Folia lateralia oblongo-ligulata, breviter acuminata. 14. *H. bombonasica.*

Folia lateralia ovato-oblonga, acuta .... 15. *H. antillarum.*

Folia lateralia oblonga, acuminata .... 16. *H. albicans.*

Folia (lateralia?) a basi lata veluti truncata latius oblonga, subito fere longe et tenuissime acuminata .... 17. *H. Jagiana.*

Folia (lateralia?) a basi truncata oblonga, apice subito fere mucronato acuminata .... 18. *H. sublimbata.*

Folia (lateralia?) longius acuminata, apice recurviusculo. 19. *H. albata.*

Folia lateralia oblonga, acuta, brevissime acuminata. 20. *H. Olfersiana.*

Folia lateralia oblonga, acuminata .... 21. *H. shillicacensis.*

Folia (lateralia?) a basi late truncata ovata sensim longissime et tenuissime acuminata .... 22. *H. cuspidata.*

Folia (lateralia?) oblongo-ovata, breviter acuminato-cuspidata. 23. *H. rorida.*

Folia lateralia late ovato-oblonga, acuminata .. 24. *H. latifolia.*

Folia lateralia spathulata, obtusa, acumine brevissimo semitorto. 25. *H. riparia.*

Folia lateralia ovato-ligulata, apice obtusa, in acumen subpiliforme producta .... 26. *H. pandurifolia.*

Folia lateralia ovato-ligulata, acuta .... 27. *H. viridula.*

Folia lateralia ovato-oblonga, acuminata, interdum lanceolata acuta. 28. *H. pallens.*

Folia lateralia ovato-oblonga, acuminata ...... 29. *H. æruginosa.*

Folia lateralia ovato-lanceolata, sensim acuminata. 30. *H. chimborazensis.*

Folia lateralia late lanceolata................ 31. *H. varians.*

Folia lateralia ovato-oblonga, subito breviter acuminata. 32. *H. nivalis.*

Folia lateralia ovato-ligulata, breviter acuminata. 33. *H. denticulata.*

Folia lateralia ovalia ovali-lanceolatave, acuminata. 34. *H. cæspitosa.*

Sect. 4. STENODERMUS. *Folia binervia, immarginata, undique æqualia, lævia. Theca erecta.*

Species unica .... 35. *H. tenuicuspis.*

Sect. 5. STENODICTYON. *Folia binervia, immarginata, undique æqualia, lævia. Theca horizontalis.*

Species unica .... 36. *H. nitida.*

Sect. 6. HEMIRAGIS. *Folia binervia, immarginata, undique æqualia, plicata.*

Species unica .... 37. *H. aurea.*

Sect. 7. CALLICOSTELLA. *Folia binervia, immarginata, disparia.*

Subsect. 1. CALLICOSTA. *Caules procumbentes. Folia cellulis abbreviatis subrotundis papilla singula medio instructis vel lævibus.*

Pedunculus lævis.

Folia apice rotundata obtusa vel acumine brevi terminata, nervis parum serrulatis .... 38. *H. Martiana.*

Folia apice truncato obtusa, nervis scabris .... 39. *H. Merkelii.*

Folia apice obtusa acumine brevissimo, nervis denticulatis. 40. *H. depressa.*

Folia apice obtusa breviter mucronata, nervis lævibus. 41. *H. cruceana.*

Folia apice obtusa angulove subrecto terminata, cellulis grossis. 42. *H. incurva.*

Pedunculus scabrosus.

Florescentia monoica vel synoica.

Folia apice obtusa sæpe oblique subtruncata, nervis lævibus, pedunculo superne scabro .... 43. *H. microcarpa.*

Folia apice obtusissima, apiculo minuto, nervis serrulatis, pedunculo ubique scabro .... 44. *H. pallida.*

Folia apice obtusa vix acuminata, nervis paulo scabris, pedunculo scabro .... 45. *H. scabriuscula.*

Folia apice obtusissima apiculo minuto, nervis vix scabris, pedunculo scaberrimo .... 46. *H. Œrstediana.*

Folia apice obtusa brevissime acuminata, nervis serrulatis, pedunculo subscabro.......................... 47. *H. crenata.*

Folia apice obtusiuscula breviter acuminata, nervis scabridis, pedunculo superne scabrido.................. 48. *H. longipedunculata.*

Folia apice obtusa, apiculo parvo, pedunculo ubique scabro. 49. *H. aspera.*

Folia apice brevissime acuminata .... 50. *H. saxatilis.*

Folia apice obtusa acumine brevi, pedunculo ubique scaberrimo. 51. *H. rufescens.*

Florescentia dioica.

Folia lateralia anguste lanceolata .... 52. *H. pellucida.*

Folia lateralia oblongo-lanceolata, acuta .... 53. *H. rivularis.*

Folia lateralia ligulata, obtusa .... 54. *H. scabriseta.*

Folia a basi dilatata elongate perfecte oblongo-ligulata, obtusa. 55. *H. callicostata.*

Subsect. 2. OMALIADELPHUS. *Caules procumbentes. Folia cellulis elongatis lævibus vel apicibus papilliformibus exstantibus.*

Folia acumine lato v. obtusa.

Pedunculus lævis.

Folia lateralia ovata, sensim late acuminata, acumine undulato, nervis serrulatis .... 56. *H. crispa.*

Folia lateralia minus undulata, nervis lævibus.
57. *H. undata.*
Folia lateralia ovato-lanceolata, nervis serrulatis.
58. *H. diffusa.*
Folia lateralia ovata longe lateque acuminata, latere inferiore sinuata.
59. *H. acicularis.*
Folia lateralia ovato-ligulata, acumine longo acuto.
60. *H. Cruegeriana.*
Folia lateralia ovato-oblonga, acumine subrecurvo.
61. *H. cuspidata.*
Folia lateralia ovato-lanceolata, acuminata .. 62. *H. tenuis.*
Folia lateralia ovato-lanceolata, apice acuta subflexuosa.
63. *H. terrestris.*
Folia lateralia oblongo-ligulata, obtusa vel acuta.
64. *H. Parkeriana.*
Folia lateralia oblonga, acumine brevi acuto, plana.
65. *H. Langsdorffii.*
Folia lateralia oblonga acuminata concava .. 66. *H. nitens.*
Pedunculus scaber.
Folia lateralia ovato-oblonga, acumine brevi angusto.
67. *H. acuminata.*
Folia lateralia ligulato-lanceolata acuta .... 68. *H. fissidentioides.*
Folia lateralia ovato-ligulata, acuminata, undulis parvis transversis.
69. *H. rugulosa.*
Folia lateralia ovato-lanceolata, acuminata .. 70. *H. exigua.*
Folia lateralia ovato-lanceolata, acuminata, secunda.
71. *H. subsecunda.*
Folia lateralia late ovata, concava, oblique sinuata, retusa, acumine angusto flexuoso...................... 72. *H. sinuata.*
Folia sensim angustata, anguste acuminata.
Pedunculus lævis.
Folia ovato-lanceolata, sensim longe attenuata.
73. *H. tenuifolia.*
Folia anguste lanceolata, subulata, secunda .. 74. *H. guadelupensis.*
Folia ovato-lanceolata, acuminata, falcato-secunda.
75. *H. variabilis.*
Folia anguste ovato-lanceolata, piliformi-acuminata, apice undulato crispa, depresse falcata .... 76. *H. subfalcata.*
Pedunculus scaber.
Flores monoici.
Folia ovato-lanceolata, sensim subulato-acuminata, secunda.
77. *H. gracilis.*
Folia oblonga, concava, in acumen subulatum flexuosum producta, subfalcata, subsecunda .... 78. *H. vaga.*

Folia ovata, obtusiuscula, undulata, acumine elongato subulato flexuoso anguste attenuato............79. *H. glandulifera.*

Folia lanceolato-subulata, acuminata, falcato-secunda.
80. *H. falcata.*

Flores dioici.

Folia late ovata in acumen planiusculum flexuosum subulatum producta, secunda, falcata ....81. *H. cavifolia.*

Folia anguste lanceolata, longe angusteque subulato-acuminata, falcato-secunda ....82. *H. adunca.*

Folia lanceolata acuminata, falcato-secunda.
83. *H. curvifolia.*

Folia lanceolata, sensim angustata subacuminatave, falcato-secunda.
84. *H. scabrella.*

Folia anguste ovato-lanceolata, acuminata, acumine flexuoso, secunda ....85. *H. viridissima.*

Folia oblique ovato-lanceolata, acuminata, laxe imbricata.
86. *H. velutina.*

Folia a basi latiuscule ovata, lanceolato-acuminata, subsecunda.
87. *H. hypnacea.*

Subsect. 3. HYLOTAPIS. *Caules procumbentes. Folia cellulis angustis elongatis, papillis 3–4 seriatim per cellularum superficiem dispositis.*

Folia obtusa, haud attenuata.

Folia oblonga, apice recurva .... 88. *H. pallescens.*

Folia oblongo-ovata, apice incurva.......... 89. *H. cymbifolia.*

Folia ovali-oblonga, acuta .... 90. *H. diversifolia.*

Folia in acumen producta.

Folia ovalia, obtusa subretusave, acumine subulato elongate flexuoso.
91. *H. pilifera.*

Folia oblongo-ovalia, subito in acumen longum tenue flexuosum producta.
92. *H. Wrightii.*

Folia anguste lanceolata, acuminata vel oblonga, subulato-attenuata, falcata, subsecunda .... 93. *H. leptorrhyncha.*

Folia ovalia, in acumen angustum elongatum flexuosum producta.
94. *H. filiformis.*

Subsect. 4. THAMNOPSIS. *Caulis primarius repens ramos superne arbusculoso-ramosos prodens.*

Species unica............................ 95. *H. pendula.*

Sect. 1. *Euhookeria.*

Musci vage ramosi. Folia magna, pallida, lucida, lævia. Thecæ horizontales. *Habitatio* ad terram in locis humidis.

1. H. ACUTIFOLIA (*Schwægr.* t. 163). Rami subsimplices. Folia appressa, complanata, omnia conformia, ovato-lanceolata, lateralia parum

asymmetrica, acuta, enervia, integerrima, cellulis oblongo-hexagonis pellucidis.

Hab. Andes Quitenses, in monte Abitagua, ad terram (5000 ped.), *Spruce*, n. 803.

Ab *H. lucente* Europæ et Americæ septentrionalis vix nisi foliis acutis differt.

Sect. 2. *Amblytropis.*

Musci caulibus vel ramis elongatis vage subpinnatim ramosis in cæspites laxos congesti. Folia disparia, nervis brevibus, cellulis rotundo-hexagonis pellucidis. Thecæ suberectæ, peristomii dentibus lamina externa solida angustiore, interni processibus convexis in membrana brevi impositis. *Habitatio* ad ligna putrida in locis humidis.

2. H. SETOSA (*Mitt.*). Folia laxe compressa, lateralia patenti-divergentia, latere inferiore inflexa, intermedia mediaque conformia breviora, omnia apice flexuosa, nervis angustissimis usque ad apicem partis ovalis fere productis, marginibus limbo angustissimo e serie singula cellularum formato, apice subintegerrimis, cellulis superioribus rotundato-ovalibus, inferioribus oblongis hyalinis; perichætialia ovato-acuminata. Theca in pedunculo elongato dense setuloso, ovalis, suberecta inclinatave, operculo acuminato, peristomii elongati dentibus lamina externa angusta solida, interna duplo latiore, interni processibus æquilongis fuscis dorso convexis; calyptra ramentis brevibus inspersa, ad thecæ medium descendens.

Hab. Andes Quitenses, in sylva Canelos (4000 ped.), *Spruce*, n. 614; in monte Abitagua, in sylva Canelos (5000 ped.), *Spruce*, n. 613.

Rami unciales, flaccidi, cum foliis vix lineam lati. Folia flaccida tenera viridia, interdum purpurascentia. Pedunculus 7-linearis.

3. H. HISPIDULA (*Mitt.*). Rami breves. Folia compressa, lateralia patenti-divergentia, intermedia oblongo-lanceolata, media late lanceolata, omnia acuta, apiculo minuto angusto brevi terminata, nervis angustissimis supra medium evanidis, cellulis ad margines reliquis longioribus limbum indistinctum integerrimum formantibus, cellulis superioribus rotundatis, inferioribus ovalibus; perichætialia subulata. Pedunculus setosus. Calyptra supra medium ramentis brevibus inspersa.

Hab. Nova Granata, *Purdie.*

Rami 3–4 lineas longi, cum foliis lineam lati. Folia pallide albo-viridia.

4. H. OVATA (*Mitt.*). Caulis elongatus, ramis remotis pinnatim ramosus. Folia subcompressa, lateralia patentia, omnia basi excavata, nervis sub apice evanidis, limbo e serie triplici cellularum composito marginata, cellulis superioribus rotundis, inferioribus ovalibus.

Hab. Andes Bogotenses, prope Bogota, ad rupes roridas (8500 ped.), *Weir*, n. 356.

Caulis 3–4-uncialis, eradiculosus, erectus?, latitudine cum foliis linearis. Folia superiora albo-viridia, inferiora albo-fusca, in ramorum apicibus cuspidato-imbricata.

5. H. GEMMACEA (*Mitt.*). Dioica; caulis erectus, cæspitosus, ramis irregularibus divisus. Folia imbricata, subcompressa, ad ramorum apices in gemmam congesta, media late ovalia, intermedia lateraliaque erecto-patentia, late ovata, latere inferiore inflexa, omnia inferne concava, limbo e cellularum angustissimarum seriebus quatuor marginata, integerrima, nervis fere usque ad apicem partis ovatæ productis angustis, cellulis parvis ovalibus rotundo-ovalibusque, inferioribus oblongis, omnibus pellucidis.

Hab. Andes Bogotenses, Boqueron prope Bogota infra rupes roridas ad ramulos putrescentes (8600 ped.), *Weir*, n. 332.

Caulis 2–3 uncias longus, cum foliis ½ lineam latus. Folia pallide fusco-viridia.

Statura et colore *H.* (*Callicostellæ*) *glanduliferæ* similis, habitu et foliorum structura longe aliena.

Sect. 3. *Cyclodictyon*, Mitt. in Journ. Linn. Soc. v. 8.

Musci caulibus procumbentibus vage vel subpinnatim ramosis. Folia disparia, cellulis latis hexagono-rotundatis pellucidis. Thecæ in pedunculo elongato lævi inclinatæ horizontalesve, peristomii dentibus lamina externa inferne divisa, interni processibus carinatis. Flores sæpius monoici. *Habitatio* ad terram, in saxis, etiam ad ligna in locis humidis.

6. H. LINDIGIANA (*Hampe in Linnæa*, xxxii. 156). Monoica, abbreviato-prostrata, subcomplanato-ramosa, pallide viridis. Folia concava, limbo angustissimo hyalino marginata, cellulis laxissime reticulatis limpido-hyalina, nervis binis apice divergentibus supra medium evanidis inæqualibus; perichætialia minora, ovata, breviora, longe acuminata, integerrima, subenervia. Seta purpurascens, apice incurva. Theca inclinata, demum nutans, brevicolla ovata, vel longicolla obovata, angustior, brunnescens, operculo umbonato conico cruento subula tenui longa pallescente coronato; calyptra glabriuscula basi laciniata, laciniis lanceolatis; dentibus peristomii exterioribus solidis lanceolato-subulatis rubris, internis cruribus carinatis integris croceis.—*Hampe, l. c.*

Hab. Andes Bogotenses, Tequendama, Canaos et Cipacon, ad truncos arborum (2500–2600 metr.), *Lindig.*

H. Jagianæ C. Müll. proxima, latius complanata et foliis complicatis tortis minus acuminatis sed evidentius dentato-serratis differt.—*Hampe, l. c.*

7. H. CAPILLATA. Folia compressa, lateralia patenti-divergentia, margine inferiore inflexo, intermedia breviora conformia, media late ovata, omnia in acumen angustum flexuosum producta, nervis sub apice evanidis, limbo angustissimo e cellularum seriebus tribus composito marginata, serrulata integerrimave, cellulis ovali-rotundis; perichætialia ovato-acuminata. Theca ovalis, nutans; calyptra lævis.

Hab. Andes Quitenses, Tunguragua loco Mapa-yacu (10,000 ped.), *Spruce*, n. 580 foliis integerrimis, et *Spruce*, n. 581 foliis serrulatis. Nova Granata, Bogota loco Boqueron (8,600 ped.) ad ramulos emortuos in stillicidiis, *Weir*, n. 331, 337, et 367, omnia foliis serrulatis.

Rami subunciales, latitudine cum foliis 1½-lineares. Folia pallide luteo-fuscescentia. Pedunculus 9-linearis.

8. H. RUBRISETA (*Mitt.*). Caulis erectus?, ramosus, rufescens. Folia compressa, laxe imbricata, media ovata, intermedia lateraliaque oblonga, omnia superne undulata, acumine angusto minute remoteque serrulato, nervis angustis infra apicem partis latioris evanidis, limbo e cellularum seriebus tribus composito, cellulis ovali-rotundis hyalinis; perichætialia parva, ovata. Pedunculus crassiusculus, nitidus, rufus. Theca ovalis, inclinata, peristomii dentibus linea media pellucida notatis, interni processibus in carina parce pertusis minutissime transversim striatis, in membrana usque ad ⅓ dentium longitudinis exserta impositis; calyptra ad basin operculi descendens.

Hab. Andes Bogotenses, *Weir*.

Caules 1½ unciales, cum foliis 1½ lineam lati. Folia pallida lutea, mollia, tenera, fragilia. Pedunculus ½-uncialis, vernicosus.

9. H. CASTANEA (*Mitt.*). Dioica?; rami elongati, laxe cæspitosi. Folia compressa, lateralia patenti-divergentia latere inferiore inflexo, intermedia mediaque latissime ovalia acumine angusto, omnia nervis sub apice evanidis, limbo angusto e seriebus cellularum quatuor formato marginata, integerrima, cellulis ovali-hexagonis pellucidis; perichætialia parva, subulata. Theca ovalis, basi substrumosa.

Hab. Andes Quitenses, Llalla (9000 ped.), *Spruce*, n. 579.

Rami 1½-unciales, latitudine cum foliis 1½-lineares. Folia castaneo-fusca. Pedunculus uncialis.

Peristomii dentes lamina externa medio fissa, ergo linea pellucidiore notati, interni membrana ad dentium longitudinis tertium producta, processibus carinatis dentium longitudine.

H. marginatæ affinis, sed foliis latioribus acumine longiore integerrimis distincta.

10. H. MARGINATA (*Hook. et Wils. in Hook. Lond. Journ.* iii. 160). Folia dense inserta, compressa, lateralia patentia, omnia conformia, nervis sub apice evanidis, limbo e seriebus cellularum tribus composito marginata, apice serrulata, cellulis ovalibus. Theca ovalis; calyptra lævis.

Hab. Brasilia, Minas Geraës, ad Piedade, *Gardner*, n. 87.

Rami cum foliis lineam lati. Folia castaneo-fusca.

11. H. TENELLA (*Mitt.*). Dioica?; rami laxissime cæspitosi, elongati. Folia compressa, lateralia patenti-divergentia, intermedia mediaque conformia, omnia marginibus flexuosis e serie duplici cellularum angustissime limbata, integerrima, nervis sub apice evanidis, cellulis parvis rotundatis pellucidis; perichætialia subulata. Theca ovalis; calyptra angusta, lævis.

Hab. Andes Quitenses, in sylva Canelos (3000 ped.), *Spruce*, n. 589; Baños in spelunca Siesi-huaico dicta (6000 ped.), *Spruce*, n. 590; etiam in loco Antombos (5000 ped.), *Spruce*, n. 591.

Caulis 2-uncialis, ramulis ½-uncialibus, cum foliis lineam latus. Folia viridia, lutescentia.

12. H. OBSCURIFOLIA (*Mitt.*). Dioica, cæspitosa; caulis erectus?, irregulariter decrescenterque pinnatim ramosus. Folia laxe inserta, subcompressa, media latissime breviter ovata, intermedia lateraliaque latere inferiore complicato inflexa, omnia apiculo brevi terminata, nervis supra medium desinentibus, limbo e seriebus cellularum angustissimarum quatuor marginata, cellulis superioribus rotundo-hexagonis, inferioribus oblongis, omnibus chlorophylloso-subobscuris.

Hab. Andes Quitenses, in monte Pichincha (11,000 ped.), inter *Philonotidem andinam*, *Spruce*, et ad cataractam Huandisagua, *Spruce*.

Caulis 2-uncialis, cum foliis lineam latus. Folia sordide viridia, fuscescentia.

13. H. HUMILIS. Folia compressa, lateralia divergentia margine inferiore inflexo, intermedia late oblongo-ovata, media oblongo-ovalia breviter acuminata, omnia nervis sub apice evanidis, margine e duplici serie cellularum limbata, superne serrulata, cellulis rotundis; perichætialia ovata lanceolataque. Theca ovalis, peristomio normali; calyptra lævis.

Hab. Andes Peruvianæ, Tarapoto (1500 ped.), *Spruce*, n. 583; et Tarapoto, ad rivulum Shillicaio (1500 ped.), *Spruce*, n. 584. Nova Granata, Bucaramanga (5000 ped.) ad lapides rivuli, *Weir*, n. 158.

Rami depresse cæspitosi, latitudine cum foliis 1½-lineares. Folia viridia. Pedunculus 9-linearis.

14. H. BOMBONASICA (*Mitt.*). Synoica. Folia compressa, lateralia divergentia latere inferiore inflexa, intermedia breviora, media latissime ovata, omnia breviter acuminata, nervis ultra medium evanidis, limbo angustissimo e serie cellularum duplici composito marginata, apice minute serrulata, cellulis superioribus rotundis, inferioribus ovali-rotundis; perichætialia parva, ovato-acuminata. Theca oblonga; calyptra lævis.

Hab. Andes Quitenses, ad fl. Bombonasa (1500 ped.), *Spruce*, n. 598.

Rami ½-1-unciales, latitudine cum foliis 2-lineares. Folia pallide viridia, lutescentia. Pedunculus 6-linearis.

15. H. ANTILLARUM (*Mitt.*). Folia compressa, lateralia patenti-divergentia latere inferiore inflexo, intermedia mediaque breviora conformia, omnia nervis supra medium evanidis, margine flexuoso, limbo e serie singula cellularum composito, subintegerrima, cellulis superioribus rotundis, inferioribus parum longioribus; perichætialia parva, ovato-acuminata. Theca ovalis; calyptra apice scabra.

H. varians, var., *Sulliv. in Proceed. Amer. Acad.* Aug. 1861.

Hab. Ins. Jamaica; Cuba, *Wright*, n. 89, 90.

Rami cæspitosi, depressi, latitudine cum foliis 1½-lineares. Folia pallide luteo-viridia. Pedunculus 7-linearis.

16. H. ALBICANS (*Sw. Prodr. Fl. Ind. Occ.* 140, Hypnum; *Fl. Ind. Occ.* iii. 1811; *Hedw. Sp. Musc.* t. 54, Leskea). Rami breviusculi, depresse cæspitosi. Folia compressa, lateralia patenti-divergentia latere inferiore inflexo, intermedia mediaque latissime ovato-oblonga acuminata, omnia acumine tenui angusto, marginibus anguste calloso-limbatis apice serrulatis, nervis ultra medium productis, cellulis rotundo-hexagonis; perichætialia subulata. Theca ovalis, collo elongato; calyptra lævis.

Hab. Ins. Jamaica, *Swartz, March*; Trinidad, *Black*; Nova Granata, ad montaña fluvii Sogamoza (6000 ped.), *Weir*, n. 149. Andes Quitenses, Baños in humidis umbrosis montis Tunguragua (7500 ped.), *Spruce*, u. 592.

Rami ½-unciales, latitudine cum foliis 1½-lineares. Folia pallide albo-viridia, glauca. Pedunculus 7–8-linearis.

17. H. JAGIANA (*C. Müll. Syn.* ii. 191). *H. albicanti* similis, sed folia tenerrima flaccida, haud rigida, multoties complicata, torta, limbo tenuissimo albido minus angulate flexuoso subintegerrimo, rarius apice tenuissime denticulato, cellulis tenerrimis facillime madore emollientibus, nervis ad apicem fere productis, distinctius spiniformi-abruptis. — *C. Müll. l. c.*

Hab. Venezuela, Jagi prov. Merida, inter *Mnium rostratum, Moritz.*

18. H. SUBLIMBATA (*H. Müll. Syn.* ii. 191). *H. Jagianæ* similis, sed viridior, folia limbo e cellularum serie unica formato, superne subangulate flexuoso obsolete denticulato, nervis obscurioribus ultra medium productis minus distincte spiniformi-abruptis, cellulis laxis parvulis mollibus valde pachydermibus; perichætialia angustissima, longe acuminata, obsoletinervia. Theca adscendens; calyptra glabra, basi multifida; peristomium angustum longum *H. læte-virentis.—C. Müll. l. c.*

Hab. Chili, *Pæppig.*

"Flos masculus subturgidus; folia perigonialia late ovata concava breviter et sæpe reflexo-acuminata enervia; antheridia pauca, paraphysibus tenuibus cincta."

19. H. ALBATA (*C. Müll. Syn.* ii. 191). Monoica?. *H. sublimbatæ* proxima, sed albida, folia limbo apice distincte denticulato, cellulis ma-

joribus multo tenerioribus; perichætialia caulinis paulo angustiora. Theca oblonga, longe operculata, suberecta, minuta.—*C. Müll. l. c.*

Hab. Ins. Trinidad, inter *Rhacopilum insigne* Hornsch., *Sieber*, n. 19.

20. H. OLFERSIANA (*Hornsch. in Mart. Fl. Bras. Musc.* 61, t. 3). Folia compressa, lateralia patenti-divergentia latere inferiore inflexo, intermedia mediaque late oblonga acuminata, omnia nervis sub apice evanidis, marginibus integerrimis, limbo e serie duplici cellularum composito, cellulis ovali-rotundis hexagonis; perichætialia parva ovata. Theca elliptica; calyptra apice scabra.

Hab. Brasilia, Tijuca in vicinia Rio Janeiro, *Olfers*; Minas Geraës, Formoso, *Gardner*, n. 81; Rio, *Milne.* Ins. Jamaica, *Heward.*

Rami ½-unciales, latitudine cum foliis 1½-lineares. Folia pallide albo-viridia, fuscescentia.

21. H. SHILLICAIENSIS (*Spruce*). Synoica. Folia compressa, lateralia divergentia, intermedia mediaque ovato-oblonga acuminata, omnia nervis infra apicem evanidis, margine flexuoso, limbo e serie triplici cellularum composito, superne serrulata, cellulis rotundatis ovalibusque immixtis; perichætialia subulata, integerrima. Theca breviter ovalis; calyptra lævis.

Hab. Andes Quitenses, ad pedem montis Tunguragua (7000 ped.), *Spruce*, n. 595; ad rivulum Cusitagua prope Ambato (8000 ped.), *Spruce*, n. 596. Andes Peruvianæ, Tarapoto, in saxis rivuli Shillicaio (1500 ped.), *Spruce*, n. 594; ad folia emortua in aggeribus humidis sylvarum (1500–2000 ped.), *Spruce*, n. 597.

Rami in cæspitem depressum aggregati, latitudine cum foliis lineam haud attingentes. Folia viridia lutescentique viridia. Pedunculus 6–7 lineas longus.

22. H. CUSPIDATA (*C. Müll. Syn.* ii. 189). *H. Olfersianæ* simillima, sed folia subhomomalla, integerrima vel obsolete denticulata, limbo indistincto, nervis tenuibus, cellulis elongate prosenchymaticis rhomboidalibus magnis laxis subinanibus; perichætialia interiora angustissime lanceolata, longissime acuminata, enervia. Theca in pedunculo longiusculo adscendente, obovata; peristomium *H. sublimbatæ.*—*C. Müll. l. c.*

Hab. Venezuela, *Moritz.* Andes Bogotenses (2500 metr.), *Lindig.*

"Folia ramulorum juniorum sæpe subenervia. Flos masculus minutus, quadrifolius, foliis perigonialibus omnibus longiuscule anguste lanceolato-acuminatis, antheridiis paucissimis parvulis."

23. H. RORIDA (*Hampe in Linnæa,* xxxii. 155). Elongata, prostrata, late complanata, irregulariter ramosa, humida læte viridis. Folia densa, disticha, imbricata, caviuscula, sursum flavescentia, marginata, apice denticulata, nervis binis flavescentibus apice divergentibus ante apicem evanescentibus, cellulis echlorophyllosis hyalina; perichætialia interiora minora, ovato-lanceolata, longe acuminato-cuspidata, subimmarginata, enervia, cellulis laxioribus limpido-hyalina. Seta breviuscula. Theca adscen-

dens, ovata, sub ore parum contracta, pallide brunnescens, operculo prominente umbonato conico subulato; calyptra breviter inciso-lobata.—*Hampe, l. c.*

Hab. Andes Bogotenses, Bogota, Boqueron, ad rupes roridas (2800 metr.), *Lindig.*

H. læte-virenti proxima magis complanata intensius colorata differt foliis perichætialibus longissimis cuspidatis, seta breviore, theca magis adscendente, operculo prominente paulo longiore, cruribus peristomii interioris pertusis, calyptra basi lobata.—*Hampe, l. c.*

24. H. LATIFOLIA (*Mitt.*). Rami elongati. Folia compressa, lateralia divergentia latere inferiore inflexo, intermedia mediaque late ovalia obtusa apiculo angusto terminata, omnia nervis angustis sub apice evanidis, marginibus e serie duplici cellularum angustarum limbatis apice serrulatis, cellulis apice rotundato-hexagonis, inferioribus oblongis.

Hab. Andes Quitenses, in monte Tunguragua (8000 ped.), *Spruce,* n. 599.

Rami 2-unciales, latitudine cum foliis 3-lineares. Folia pallida, subfusco-viridia, tenera.

Species statura majore ab affinibus recedens.

25. H. RIPARIA (*Mitt.*). Folia compressa, lateralia divergentia latere inferiore inflexo, intermedia mediaque latissime oblonga, omnia acumine brevissimo semitorto, nervis ultra medium productis, limbo e seriebus cellularum angustissimarum 4–6 composito marginata, cellulis superioribus rotundis, inferioribus oblongis.

Hab. Andes Quitenses, in ripis fl. Bombonasa, terrestris (1200 ped.), *Spruce,* n. 593.

Rami subunciales, cum foliis 2 lineas lati. Folia pallide luteo-viridia.

26. H. PANDURIFOLIA (*Mitt.*). Folia compressa, lateralia patenti-divergentia, intermedia breviora, media subovata obtusa apiculata, omnia nervis sub apice evanidis, marginibus superne flexuosis, limbo e serie duplici cellularum composito subintegerrimo, cellulis superne rotundatis, inferne ovali-rotundis.

Hab. Andes Peruvianæ, in monte Campana (4000 ped.), *Spruce,* n. 582.

Rami breves, cum foliis lineam lati. Folia pallide luteo-viridia.

27. H. VIRIDULA (*Mitt.*). Caulis ramis brevibus, laxe cæspitosus. Folia compressa, lateralia patentia, omnia nervis sub apice evanidis, marginibus superne serrulatis, limbo angusto e serie cellularum duplici composito, cellulis apice rotundatis, inferioribus oblongis vestigio utriculi repletis subpellucidis.

Hab. Andes Peruvianæ, Tarapoto (1500 ped.), *Spruce.*

Caulis 2-uncialis, ramis $1\frac{1}{2}$-uncialibus, cum foliis lineam latis. Folia luteo-viridia.

28. H. PALLENS (*Mitt.*). Dioica? Folia compressa, lateralia patenti-

divergentia latere inferiore inflexo, intermedia mediaque magis ovato-acuminata, omnia nervis supra medium evanidis, marginibus superne flexuosis, limbo e serie singula cellularum angustarum circumducto, brevissime serrulata, subintegerrima, cellulis superioribus polygono-rotundatis, inferioribus oblongis; perichætialia subulata. Theca ovalis, nutans; calyptra lævis.

Hab. Fl. Negro, S. Carlos ad ligna in sylvis humidis, *Spruce*, n. 610.

Rami ½–1-unciales, latitudine cum foliis lineam vix excedentes. Folia pallide flavo-viridia. Pedunculus 15-linearis.

29. H. ÆRUGINOSA (*Mitt.*). Dioica. Folia compressa, lateralia patentia latere inferiore inflexo, omnia nervis supra medium evanidis, limbo e serie cellularum elongatarum duplici circumducto marginata, apice serrulata, cellulis superioribus rotundatis, inferioribus ovalibus. Perichætialia subulata, apice serrulata. Theca ovalis, horizontalis nutansve; calyptra lævis.

Hab. Andes Quitenses, in monte Guayrapata (8000 ped.), *Spruce*, n. 600; ad fl. Bombonasa (1500 ped.), *Spruce*, n. 601 et 605; Tunguragua (7000 ped.), *Spruce*, n. 603. Andes Peruvianæ, Tavalosos in lignis (2000 ped.), *Spruce*, n. 602; Guayrapurina (3000 ped.), *Spruce*, n. 604.

Rami ½-unciales, cum foliis lineam lati. Folia densiuscule inserta, pallide viridia. Pedunculus 9-linearis.

30. H. CHIMBORAZENSIS (*Mitt.*). Dioica. Folia compressa, subsecunda, lateralia patentia latere inferiore inflexo, omnia nervis sub apice evanidis, marginibus flexuosis, limbo e serie duplici cellularum composito superne serrulato, cellulis ovali-rotundis; perichætialia elongata, subulata, apicibus serrulatis. Theca in pedunculo prælongo, oblonga, nutans.

Hab. Andes Quitenses, Chimborazo, in sylvis *Cinchonæ succirubræ* (4000 ped.), *Spruce*, n. 577.

Rami ½-unciales, cum foliis lineam lati. Folia pallide fulvescentia. Pedunculus 14-linearis.

31. H. VARIANS (*Sulliv. in Proceed. Amer. Acad.* 1861). Dioica? Folia compressa, lateralia divergentia margine inferiore inflexo, intermedia ovali-lanceolata mediaque ovata subacuminata, omnia nervis medio evanidis, marginibus minute serrulatis integerrimisve, limbo e serie singula cellularum composito, cellulis rotundis ovali-rotundisque; perichætialia parva, ovata.

Hab. Ins. Cuba, ad ligna putrida, *Wright*, n. 88.

Depresse cæspitosa, ramulis brevibus, cum foliis lineam latis. Folia pallide fulvescentia.

32. H. NIVALIS (*C. Müll. Syn.* ii. 188). Dioica? *H. læte-virenti* simillima, latiuscule complanata, pallide viridis v. rufescens, parce divisa. Folia integerrima, e cellulis ubique pellucidis inanibus irregularibus reticulata; perichætialia varie complicata, veluti undulata, caulinis similia,

interna angustissime lanceolata, longissime acuminata, marginata, enervia. Theca, pedunculus et peristomium *C. læte-virentis.*—*C. Müll. l. c.*

Hab. Venezuela, prov. Merida, in montibus nivosis inter *Hypopterygium nivale, Moritz.* Andes Bogotenses (2500–2600 metr.), *Lindig.*

33. H. DENTICULATA (*Mitt.*). Dioica? Folia compressa, subsecunda, lateralia divergentia, intermedia mediaque ovato-oblonga acuminata, omnia nervis sub apice evanidis, superne denticulata, cellulis superioribus rotundis, inferioribus ovali-rotundis; perichætialia subulata. Theca ovalis, collo sensim attenuato, peristomii dentibus lamina externa medio divisa, interni processibus æquilongis latis in membrana ad dentium longitudinis $\frac{1}{3}$ usque producta impositis; calyptra lævis.

Hab. Ins. Guadelupe, *Perrottet.* Andes Peruvianæ, Tarapoto (1500 ped.), *Spruce,* n. 586; ad rivulum Shillicaio (1500 ped.), *Spruce,* n. 587; in saxis rivuli Marona-yacu (2000 ped.), *Spruce,* n. 588.

Rami $\frac{1}{2}$ unciam longi, cum foliis lineam lati. Folia viridia. Pedunculus 7-linearis.

H. albicanti simillima, sed folia haud in acumen angustum attenuata, subsecunda, marginibus argutius denticulatis.

34. H. CÆSPITOSA (*Mitt.*). Dioica?; rami ramosi, in cæspitem depressum intricati. Folia vix compressa, in ramorum apicibus cuspidatim congesta, erecto-patentia, nervis sub apice evanidis, marginibus limbo latiusculo e seriebus 3 vel 4 composito superne serrulato, cellulis ovali-rotundis pellucidis; perichætialia ovato-subulata, apicibus serrulatis. Theca ovalis, inclinata horizontalisve; calyptra lævis.

Hab. Andes Quitenses, Tunguragua (7000 ped.), *Spruce,* n. 578.

Rami, foliis laxe insertis vix distincte seriatis, cum foliis $\frac{1}{2}$-lineares. Folia viridia, nervis lutescentibus, cellulis hic illic granulis chlorophylli paucissimis includentibus. Peristomii dentes lamina externa solida, interni processibus dentium longitudine in membrana flavida.

Sect. 4. *Stenodesmus.*

35. H. TENUICUSPIS (*Mitt.*). Dioica?; rami erecti, ramosi, in cæspitem congesti. Folia undique imbricata, patentia, late ovalia, concava, in acumen subulatum elongatum subrectum producta, nervis ultra medium evanidis, marginibus superioribus incurvis apice serrulatis, cellulis omnibus oblongo-ellipticis utriculi vestigio repletis; perichætialia late ovata, subito in acumen serrulatum contracta. Theca in pedunculo elongato ubique dense setuloso erecta, breviter ovalis, operculo acuminato; peristomium magnum, interni processibus dentium externi longitudine dorso convexis punctulato-obscuris; calyptra fere ad thecæ basin descendens, basi pallida multifida, superne squamulis parvis inspersa.

Hab. Andes Quitenses, in sylva Canelos (3000 ped.), *Spruce,* n. 706.

Rami $1\frac{1}{2}$-unciales, cum foliis lineam lati. Folia tenera, nitida, superiora pallide læte viridia, inferiora pallide fusca. Peristomium externum dentibus stratu externo angusto vix tertiam latitudinis stratus interioris tegente, internum processibus obscuris, ultra apices dentium circiter $\frac{1}{6}$ eorum longitudinis exsertis.

Sect. 5. *Stenodictyon.*

36. H. NITIDA (*Mitt.*). Dioica; rami elongati, pinnatim ramosi. Folia subcompressa, imbricata, ad apices ramorum in cuspidem congesta, patentia, ovalia, cochleariformi-concava, obtusa, acumine angusto brevi flexuoso terminata, nervis sub apice evanidis, marginibus integerrimis, cellulis angustis elongatis, basi paucis subhexagonis flavidis; perichætialia parva, lanceolata. Theca in pedunculo apice scabro, ovalis, horizontalis nutansve, peristomii dentibus laminis externis internisque æquilatis, interni processibus carinatis pertusis, in membrana usque ad tertiam dentium externi longitudinis exserta insidentibus; calyptra paulo infra basin operculi descendens, lævis, basi lobis latis fissa.

Hab. Andes Quitenses, in monte Tunguragua, loco Mapa-yacu, ad terram (10,000 ped.), *Spruce*, n. 707.

Rami 2-unciales, latitudine cum foliis $1\frac{1}{2}$-lineares. Folia nitida, aureofulva. Pedunculus $1\frac{1}{2}$-uncialis.

Sect 6. *Hemiragis*, Brid. ii. 334.

37. H. AUREA (*Lam. Dict.* iii. 172, Hypnum). Dioica?; caulis procumbens, pinnatus, ramis assurgentibus simplicibus vel parum ramosis. Folia undique dense inserta, erecto-patentia, appressa, plus minus falcata secundaque, inferne oblonga, inde sensim angustata, sublineari-lanceolata, 3–5-plicata, nervis tenuibus angustis fere ad apicem productis, margine inferne plana superne incurva, remote indistincte serrulata, cellulis angustissimis subconflatis; perichætialia caulina haud excedentia, orbiculato-ovata, acumine subulato, enervia, subintegerrima. Theca in pedunculo longissimo apice sublævi inclinata subhorizontalisve, obovata, inæqualis, ore magno, operculo convexo longe tenuirostrato, peristomii dentibus lamina externa aurantiaca per medium divisa, interni pallide flavi processibus pellucidis carinatis, in membrana ad $\frac{1}{3}$ dentium longitudinis exserta impositis; calyptra longirostra, multifida.

Leskea striata, *Schwægr.* t. 86.

Harpophyllum aureum, *Spruce, Cat.*

Hab. Ins. Guadelupe, *Richard*; Trinidad, *Sieber*. Andes Quitenses, *Jameson*, in monte Abitagua in ramis, *Spruce*.

Caulis parce radicans, ramis 1–3 uncias longis erectis, apicibus foliis subrectis vel falcato-secundis. Folia nitida, viridia, aureo-fulvescentia. Fructus e caule et e ramis oriundus. Pedunculus $1\frac{1}{2}$-uncialis, ruber. Theca pro magnitudine musci parvula.

Sect. 7. *Callicostella.*

Musci graciles vel robusti, caulibus prostratis vel procumbentibus. Folia compressa, rarius subcompressa, obscura, intense viridia vel pallida, lævia subnitidaque, cellulis rotundis papilla unica medio imposita, vel elongatis, apicibus in papillam extantibus vel papillis pluribus per cellularum longitudinem seriatim dispositis. Thecæ in pedunculo lævi vel scabro horizontales, operculis subulatis, peristomii dentibus laminis internis et externis coæqualibus vel externa per medium divisa, interni processibus carinatis. *Habitatio* ad terram in saxis, etiam in lignis.

38. H. **MARTIANA** (*Hornsch. in Mart. Fl. Bras. Musc.* 63, t. 3). Monoica synoicave. Folia compressa, media late ovalia apice rotundata, intermedia oblonga asymmetrica obtusissima, lateralia patentia ligulata longiora obtusa vel acumine brevi terminata, margine latere inferiore inflexo, apice crenulato-serrulata, omnia nervis sub apice abruptis, cellulis inferioribus oblongis, superioribus minoribus ovali-rotundis pachydermibus pellucidis lævibus; perichætialia ovato-lanceolata, obtusiuscula, erecta. Theca in pedunculo breviusculo, ovalis, collo crassiusculo; calyptra apice scabra.

Hab. Brasilia, prov. Bahia, *Martius*; ins. S. Catharinæ, *Macrae.*

39. H. **MERKELII** (*Hornsch. in Mart. Fl. Bras. Musc.* 62). Monoica synoicave. Folia compressa, superiora media ovato-oblonga, intermedia oblonga asymmetrica, lateralia patentia oblongo-ligulata, omnia apicibus truncato-obtusis interdum obliquis, nervis sub apice abruptis, marginibus superne crenulatis, cellulis basi paucis oblongis pellucidioribus, superioribus parvis rotundis incrassatis lævibus obscuris; folia in caulis latere inferiore media intermediaque ovata, acuta, teneriora; perichætialia parva, ovata, acuminata. Theca parva, ovalis; calyptra apice scabra.

Hab. Brasilia, San Sebastian, *Merkel*; ad urbem Rio de Janeiro in humidis, *Gardner*, n. 84.

40. H. **DEPRESSA** (*Sw. Prodr. Fl. Ind. Occ.* 141, Hypnum). Folia compressa, media intermediaque oblonga, lateralia patenti-incurva oblongo-ligulata, nervis sub apice abruptis, apicibus glomerato-denticulatis, marginibus dense crenulato-serrulatis, cellulis basi oblongis pellucidis, superioribus rotundatis obscuriusculis papilla unica notatis; perichætialia interna orbiculari-subulata, nervata. Theca parva, ovalis, collo sensim attenuato; calyptra apice subscabra, fere lævis.

Hypnum guadelupense, *Sprengel.*

Leskea depressa, *Hedw. Sp. Musc.* t. 53.

Hab. Ins. Jamaica, *Swartz, Wilson*, n. 141 et 594; Cuba, *Wright*, n. 93; Guadelupe, *Sprengel*; Portorico, *Bertero*; Hispaniola, *Poiteau, Bertero.*

Intricate cæspitosa. Folia pallide viridia, lutescentia.

41. H. **CRUCEANA** (*Duby, Choix Crypt. Exot.* t. 4. f. 2). Pusilla, e viridi flavescens, irregulariter divisa, ramis gracilibus brevibus complanatis apice rotundatis nec minime falcatis. Folia caulina laxe conferta, sub-

secunda, siccitate crispata, madore patulo-erecta, late ovata ligulatave, mucrone sæpe reflexo, concava, valde papillata papillis in parte superiore serratis, cellulis in parte superiore confertis irregulariter globoso-angulatis, inferioribus latioribus majoribus elongatioribus, nervis binis latioribus a basi divergentibus ad apicem convergentibus fere usque ad apicem productis, uno sæpe omnino laterali marginem folii subsequente ad apicem in paginam folii diffluentibus; perichætialia minora, cæterum conformia, 2-nervia. Seta vix 2–3 lineas alta, e basi ramorum oriunda, gracillima, purpurea, basi inflexa, glabra. Theca primo erecta, dein horizontalis, brunnea, minuta, e collo brevi oblongo ovato-cylindrica, ore vix constricto, operculo vix dimidiam capsulæ partem æquante, peristomii pro capsula magni dentibus externis inflexis latis margine lamelloso-cristatis intense purpureis medio linea intense flava exaratis, internis longioribus angustis planis strictis subhyalinis, lineis 6–9 septiformibus notatis; calyptra, glaberrima, conica, primo capsulam totam involvens, tandem basi usque ad medium fimbriata dilatata caduca.—*Duby, l. c.*

Hab. Mexico, prope Vera Cruz, ad arborum cortices, *Sumichrast.*

Species ex icone *H. depressæ* affinis.

42. H. INCURVA (*Hook. et Grev. in Brewst. Edinb. Journ.* ii. 231; *Schwægr.* t. 275). Monoica; caulis procumbens, ramosus. **Folia compressa, lateralia patenti-divergentia oblongo-spathulata, intermedia patentia breviora obovato-oblonga, media appressa late oblonga, omnia apice obtusa angulove subrecto terminata, nervis divergentibus usque ad folii longitudinis ⅔ productis dorso serrulatis, margine denticulis duplicatis subæqualibus dense serrulata, cellulis grossiusculis subrhombeis utriculo contracto subobscuratis; perichætialia parva, patentia, ovata, parce denticulata. Theca in pedunculo elongato horizontalis, ovalis, collo sensim angustato rugoso, operculo conico-rostrato, peristomii dentibus lamina externa medio divisa, interni lutei processibus solidis in membrana usque ad ¼ dentium longitudinis exserta impositis; calyptra pilis articulatis sparse vestita.**

Hab. Ins. Trinidad, *Lockart*; Cuba, *Wright*, n. 91. Andes Peruvianæ, Tavalosos (2500 ped.), *Spruce*, n. 710; in monte Guayrapurina ad ligna in humidis umbrosis (2500 ped.), *Spruce*, n. 711. Brasilia, ad Rio de Janeiro in monte Corcovado et in Minas Geraës, *Gardner*, n. 88; ad viam inter S. Paulo et Jundiahy in humidis (2000 ped.), *Weir*, n. 15.

Caulis 2–3 uncias longus, ramis subpinnatim dispositis ramosus. Folia viridia, obscura, sæpe purpurascentia. Pedunculus uncialis.

43. H. MICROCARPA (*Hornsch. in Mart. Fl. Bras. Musc.* 62). **Folia compressa, media late ovalia, intermedia oblonga asymmetrica, lateralia patentia oblongo-ligulata, nervis sub apice abruptis, marginibus superne crenulatis, cellulis basi oblongis pellucidis, superioribus rotundatis obscuris brevissime papillosis; folia e caulis latere inferiore media ovata acuta, intermedia acumine parvo, omnia teneriora; perichætialia ovata, acuminata. Theca in pedunculo superne scabro, ovalis; calyptra scabra.**

Hab. Brasilia, Minas Geraës, *Martius* (ex *Hornschuch*); in monte Corcovado, *Gardner*, n. 82. Fl. Amazon, Pará, *Spruce*, n. 662; fl. Aripecurú, *Spruce*, n. 663; fl. Negro, S. Carlos, *Spruce*, n. 659; in saxis rivuli submersis ad pedem montis Cocui, *Spruce*, n. 660; San Gabriel, *Spruce*, n. 661; Rio Canopuna, in truncis, *Spruce*, n. 666; Manaos, *Spruce*, n. 667; fl. Pacimoni, in rivulo Uaiauaca, *Spruce*, n. 665.

44. H. PALLIDA (*Hornsch. in Mart. Fl. Bras. Musc.* 64). Folia compressa, media late ovata ovaliave, intermedia ovato-oblonga asymmetrica obtusa, lateralia longiora ovato-ligulata late ovatave, obtusa, subtruncata, mucronulo parvo, nervis dorso superne serrulatis sub apice abruptis, marginibus crenulato-serrulatis, cellulis basi paucis oblongis pellucidis, superioribus polygono-rotundatis ut plurimum chlorophyllo obscuris, singulis in papilla unica protuberantibus; perichætialia ovata, acuminata, serrulata, erecta. Theca breviter ovalis, collo sensim angustato; calyptra apice subscabra.

Hab. Ins. Trinidad, *Crüger*. America centralis, Panama, *Seemann*; Surinam, *Wiegelt et Kegel*. Andes Bogotenses, *Weir*, n. 426. Fl. Amazon, Pará, in sylvis, *Spruce*, n. 657; fl. Negro, in monticulo Canopuna (1200 ped.), *Spruce*, n. 654, 655; in saxis inundatis, *Spruce*, n. 656. Andes Quitenses, *Jameson*; Brasilia, Minas Geraës, ad Villam Riccam, *Martius*; Tijuca, prov. Rio Janeiro, *Beyrich, Olfers*; Sierra dos Orgaos, Sierra de Araripé, *Gardner*, n. 856.

45. H. SCABRIUSCULA (*C. Müll. in Linnæa*, xxi. 191; *Syn.* ii. 221). Synoica, *H. pallidæ* simillima, sed folia brevia, oblongo-ligulata obtusa, vix acuminata, subcircularia v. elliptica, margine haud erosa, sed papillose scabra, basi paulo cava, areolis minutis ubique, basi inferna exclusa, opacis v. paginæ caulis appressi inferioris pellucidis, nervis ante apicem forma spinæ brevis abruptis; perichætialia anguste ligulata. Theca in pedunculo breviusculo, minute oblonga; calyptra apice scabra; peristomium angustum, interni dentes ciliis solitariis rudimentariis.—*C. Müll. l. c.*

Hab. Chili, *Pœppig*.

46. H. ŒRSTEDIANA (*C. Müll. Syn.* ii. 679). Synoica, *H. pallidæ* simillima, sed teneriora, folia teneriora, e cellulis ubique minutis areolata, nervis rufescentibus vix vel parum dorso scabris. Theca in pedunculo mediocri e collo brevissimo æqualiter oblonga, ore minore æquali haud coarctato-arcuato-obliquo; peristomii brevis dentes exteriores rufescentes, linea longitudinali flava latiuscula exarati, intus valde cristati, involuti, interiores flavidi, illos æquantes, angustissimi, superne perforati, pallide aurantiaci, haud flavissimi, tenerrime punctulati, haud lævissimi, ciliis singulis maxime rudimentariis; calyptra superne scabriuscula, pallida.—*C. Müll. l. c.*

Hab. America centralis, Costa Rica, in regione montosa (5000–8000 ped.), *Œrsted*.

47. H. CRENATA (*Mitt.*). Synoica. Folia compressa, media ovali-

oblonga, intermedia oblonga asymmetrica, lateralia patentia ligulata, nervis tenuibus sub apice abruptis, marginibus denticulis duplicatis crenulatis, cellulis basi ovalibus, superioribus rotundatis papilla unica brevissima vix obvia, omnibus pellucidis, inferiora tenera ovato-acuminata; perichætialia ovata, acuminata. Theca ovalis, collo sensim angustato; calyptra scabra.

Hookeria Merkelii, *Sulliv. in Proceed. Amer. Acad.* 1861, 286.

Hab. Ins. Sti. Vincentis, *Guilding*; Cuba, *Wright*, n. 92.

H. depressæ simillima, sed folia pellucidiora, nervis apicibus haud glomerato-denticulatis et cellularum papillis brevissimis.

48. **H.** LONGIPEDUNCULATA (*C. Müll. Syn.* ii. 221). *H. pallidæ* simillima, sed differt foliis dimorphis, caulis paginæ superioris ligulato-oblongis obtusiusculis, breviter acuminatis, eroso-denticulatis, inæqualiter concavis, nervis crassiusculis flavidulis, ante apicem evanidis, forma spinæ obtusiusculæ abruptis, cellulis opacis subpapillosis, basi paulo pellucidioribus, paginæ inferioris lanceolato-acuminatis tenerioribus pellucidioribus; perichætialibus e basi latiore magis acuminatis; pedunculo longissimo; calyptra scabra.

Hab. Ins. Trinidad, *Crüger.*

49. **H.** ASPERA (*Mitt.*). Folia laxe compressa, superiorà media ovato-oblonga, intermedia oblongo-ligulata, lateralia patentia conformia, marginibus denticulis parvis subduplicatis crenulatis, nervis angustis sub apice abruptis dorso serrulatis, cellulis basi oblongis pellucidis inde ovalibus, apice rotundis obscuriusculis, singulis papilla unica armatis; folia inferiora lanceolata, sensim acuta; perichætialia ovata, acuminata. Theca ovalis; calyptra apice scabra.

Hab. Venezuela, Caracas, *Black.* Fl. Amazon, Pará in lignis, *Spruce*, n. 627; fl. Arepecuru, *Spruce*, n. 622; fl. Negro, S. Carlos, *Spruce*, n. 623, 624; ad cataractam S. Gabriel, *Spruce*, n. 628. Andes Quitenses, fl. Bombonasa (1500 ped.), *Spruce*, n. 626; fl. Guayaquil, prope Ventenas, *Spruce*, n. 625.

50. **H.** SAXATILIS (*Mitt.*). Folia compressa, media latissime ovata, intermedia oblonga, lateralia patentia ovato-ligulata, omnia crenulata, nervis sub apice abruptis dorso scabris, cellulis basi parvis oblongis pellucidis, superioribus minutis rotundatis chlorophyllo obscuris; perichætialia ovata, acuta. Theca ovalis, collo sensim attenuato; calyptra scabra.

Hab. Andes Quitenses, in monte Campana, ad lapides radicesque rivuli inundatas (3500 ped.), *Spruce*, n. 634; fl. Bombonasa (1200 ped.), *Spruce*, n. 636.

51. **H.** RUFESCENS (*Mitt.*). Folia compressa, media latissime ovato-oblonga, intermedia ovato-ligulata, lateralia erecto-patentia, acumine sæpe obliquo, nervis ante apicem abruptis dorso serrulatis, marginibus denticulis parvis crenulatis hic illic angustissime recurvis, cellulis basi angustissimis subellipticis, superioribus minutis ovalibus lævibus, limitibus

parum prominulis. Folia in caulis latere inferiore ovato-lanceolata, tenuiora, cellulis ubique elongatis; perichætialia ovata acuminata. Calyptra scaberrima.

Hab. Fl. Amazon, Pará ad ligna emortua, *Spruce*, n. 629; Surinam, ex *Herb. Dozy.*

Rigidula, foliis dense insertis rufescentibus.

52. H. PELLUCIDA (*Mitt.*). Dioica? Folia compressa, secunda, lateralia patentia, intermedia mediaque breviora, ovato-lanceolata, acuminata, nervis obscuris dorso serrulatis sub apice abruptis, marginibus serrulatis, cellulis oblongis lævibus pellucidis; perichætialia falcata, longe subulata, apicibus serrulatis. Theca parva, ovalis, in pedunculo ubique asperrimo; calyptra aspera.

Fl. Negro, ad basin montis Cocui, in truncis putridis, *Spruce*, n. 642.

Folia viridia pallescentia, cellulis pellucidis. Pedunculus a basi infima scabrosus.

53. H. RIVULARIS (*Mitt.*). Folia compressa, secunda, lateralia patentia, media intermediaque breviora, ovato-oblonga, acuta subacuminatave, nervis dorso fere lævibus ultra medium productis, marginibus serrulatis, cellulis inferioribus oblongis, superioribus ovoideis brevioribusque, interstitiis viridibus callosis lævibus pellucidis; perichætialia lanceolato-subulata, enervia, serrulata. Theca in pedunculo breviusculo, parva, brevis, obovata, operculo magno cupulato subulirostrato; calyptra scabra.

Hab. Andes Quitenses, fl. Bombonasa in rivulis (1500 ped.), *Spruce*, n. 668. Andes Peruvianæ, Tavalosos, ad saxa rivulorum (2500 ped.), *Spruce*, n. 669.

Rami depressi, subsimplices. Folia viridia.

54. H. SCABRISETA (*Hook. Musc. Exot.* t. 52). Folia compressa, media late ovalia, intermedia oblonga, lateralia longiora ligulata, omnia apicibus obtusissimis, rarius acumine brevissimo, nervis sub apice abruptis, dorso ala angusta subintegerrima carinata, marginibus apice subcrenulatis, cellulis ubique parvis obscuris, superioribus rotundatis lævibus; perichætialia ovato-ligulata, obtusa. Theca in pedunculo scaberrimo; calyptra scabra.

Hab. Crepidines juxta Caripe, locis scopulosis temperatis, irriguis (480 hexap.), *Humboldt et Bonpland.*

55. H. CALLICOSTATA (*C. Müll. Syn.* ii. 216). Procera, robusta, ramis elongatis apice curvatis irregulariter pinnate et inæqualiter ramulosis sordide viridibus vix compressis crassiusculis. Folia laxe conferta, siccitate crispula, interdum apice paulisper emarginata, planiuscula, margine erecto integerrimo, nervis crassis, ante summum apicem forma spinæ obtusæ sæpe ultra apicem folii productæ abruptis glabris, cellulis ubique minutissimis rotundatis obscuris.—*C. Müll. l. c.*

Hab. Ins. Trinidad, *Crüger.*

"Statura *H. Cruegerianæ* et pulcherrima species, structura *Eupilotrichi* folii."

56. H. CRISPA (*C. Müll. in Bot. Zeit.* 1855, 768). Monoica; caulis crassus. Folia compressa, lateralia patentia parum longiora complicata, media intermediaque concava late ovata, acumine valde transversim undulato flexuoso, nervis angustis parum prominentibus apice serrulatis ultra medium productis, marginibus superne argute serrulatis, cellulis oblongis pellucidis lævibus ad margines in seriebus circiter quinis angustioribus limbum concolorem formantibus; ramulina dimidio angustiora, nervis magis denticulatis; perichætialia e basi orbiculari-ovata loriformi-subulata, serrulata, nervis fere obsoletis. Theca in pedunculo longissimo, ovalis, collo breviusculo; calyptra lævis.

Hookeria undata, *C. Müll. Syn.* ii. 209.

Hab. Nova Granata, prov. Ocana (7000 ped.), *Funck et Schlim*; Sancta Martha, *Purdie.* Andes Bogotenses, Azeradero, S. Antonio (1900–2500 metr.), *Lindig*, inter Bogota et Fusagasuga (6000 ped.) ad arbores, *Weir*, n. 120; montana de Sogamoza ad arbores (6000 ped.), *Weir*, n. 143; in sylvis supra Pacho (6000 ped.) in arborum truncis, *Weir*, n. 242; in sylvis ad Veragua prope Pacho (6000 ped.), *Weir*, n. 269; Venezuela, Merida et Caracas, *Moritz.* Andes Quitenses, Chimborazo, *Jameson*, ad fl. Napo, *Jameson, Spruce*, n. 672; in sylva Canelos in monte Abitagua (5000 ped.), *Spruce*, n. 671.

57. H. UNDATA (*Hedw. Sp. Musc.* t. 52, Leskea). "*H. crispæ* simillima, sed statura angustior gracilior, caulis crassissimus inter folia diaphanus, folia minus undulata, minora, haud marginata, e cellulis brevibus apicem versus sensim densioribus sæpius subincrassatis, margine minus dentatis, nervis tenuibus, haud vel vix callosis, interdum obsoletis et ante medium evanidis, dorso lævibus; perichætialia multo densius areolata et subintegra. Theca in pedunculo longissimo crasso rubro torto pendula, e basi brevi gibboso, turgido-ovalis, majuscula, microstoma; peristomium *H. crispæ.*"—*C. Müll. in Bot. Zeit.* 1855, 782.

Hab. Ins. Jamaica, *Swartz*; Portorico, *Schwanecke.*

58. H. DIFFUSA (*Wils.*). Caulis pinnatim bipinnatimve ramosus, rigidiusculus. Folia compressa, pluries undulata, media intermediaque late ovata apice breviter acuminata denticulata, lateralia longiora patentia apice latiuscula acuta denticulata, omnia nervis dorso sub apice abruptis serrulata, cellulis basi paucis elongatis oblongisque, superioribus minutis ovalibus obscuriusculis lævibus.

Hab. Panama, ad oram Maris Pacifici, *Seemann.*

Folia pallida. Pedunculus 1½ unciam longus.

59. H. ACICULARIS (*Mitt.*). Folia compressa, lateralia patentia concava, nervo uno longiore apice denticulato, latere inferiore late inflexo apice sinuato, inde in acumen latum flexuosum producta, media intermediaque

nervis tenuibus infra medium evanidis, marginibus serrulatis, cellulis oblongis utriculo subgranuloso contracto obscuratis lævibus; perichætialia e basi brevi latissime ovata, enervia, longe anguste subulata, serrulata.

Hab. Ins. Jamaica, *Herb. Hooker*; Guadelupe, *Parker* et ex *Herb. Sprengel,* etiam ex *Herb. Cooley* sub nom. *Hypni acicularis,* Brid.

Ab *H. crispa* statura minore, foliis minus undulatis, cellulis minoribus, limbo obsoleto diversa.

60. H. CRUEGERIANA (*Sond.*; *C. Müll. Syn.* ii. 208). Dioica, subpinnatim ramosa. Folia compressa, in seriebus superioribus media intermediaque ovato-ligulata obtuse acuminata, lateralia longiora patula concava complicata, acumine longiore acutiore flexuoso, nervis dorso denticulatis infra apicem abruptis exstantibus, marginibus serraturis densissimis subduplicatis, cellulis oblongis subpellucidis lævibus; in seriebus inferioribus dimidio angustiora tenuinervata; perichætialia "basi latiora, externa late ligulato-ovata subintegra brevia, interna longe acuminata flexuosa denticulato-serrata, nervis fere obsoletis. Theca in pedunculo apice arcuato, turgide oblonga, pallide fusca, operculo basi rufo; calyptra multifida, glabra; peristomii dentes externi in subulam longissimam tenuissimam maxime scabram producti latiuscule exarati, interni breviores latiusculi.—*C. Müll. l. c.*"

Hab. Ins. Trinidad, *Crüger*; Barbadoes, *Parker*. Andes Bogotenses, inter Bogota et Fusagasuga ad arbores (6000 ped.), *Weir*, n. 120 ex parte. Fl. Negro, S. Carlos, *Spruce,* n. 681; ad rivulum Canapuna prope S. Carlos, *Spruce,* n. 680. Andes Peruvianæ, in monte Campana (4000 ped.), *Spruce,* n. 673, 679.

61. H. CUSPIDATA (*Mitt.*). Rami pinnatim bipinnatimque ramosi. Folia compressa, media intermediaque ovato-oblonga obtusiuscula concava, in acumen angustum producta, lateralia parum longiora, patenti-incurva, subcomplicata, concava, acumine subrecurvo flexo, nervis dorso superne serrulatis, sub apice abruptis apicibus exstantibus, marginibus serrulatis apicem versus flexuosis, cellulis elongatis angustis lævibus; ramulina apicibus longius acuminatis apicibusque nervorum longius exstantibus; perichætialia interna e basi ovata longe anguste subulata, nervis obsoletis superne denticulatis. Theca in pedunculo apice scabro, ovalis; calyptra nuda.

Hab. Andes Quitenses, in sylva Canelos ad arbores (3000 ped.), *Spruce,* n. 682.

H. Cruegeriana et affinibus dimidio gracilior, magis arbusculosa, colore autem et foliorum structura similis. Pedunculus fere 1½ unciam longus.

62. H. TENUIS (*Mitt.*). Folia compressa, media ovali-acuminata, intermedia lateraliaque patentia, omnia marginibus superne serrulatis, nervis tenuibus brevibus vel sub apice abruptis dorso serrulatis, cellulis omnibus elongatis chlorophyllosis lævibus; perichætialia acuminata. Theca in pedunculo brevi gracili, parva, obovata, peristomio magno.

Hab. Andes Peruvianæ, in monte Campana (3000 ped.), *Spruce*, n. 637; Tarapoto (2000 ped.), *Spruce*, n. 638; in monte Guayrapurina (2500 ped.), *Spruce*, n. 639; ad fl. Huallaga (1300 ped.), *Spruce*, n. 640; ad rivulum Shillicaio (2000 ped.), *Spruce*, n. 641.

Caules prostrati, flaccidi, 1½-unciales. Folia sordide viridia. Pedunculus 3-linearis.

63. H. TERRESTRIS (*Mitt.*). Dioica?, prostrata, subpinnata. Folia laxe compressa, media intermediaque anguste ovato-lanceolata acuta, lateralia longiora erecto-patentia subcomplicata concava, apicibus subflexuosis, nervis dorso denticulatis infra apicem abruptis, apicibus exstantibus, margine superne duplicato-serrulata, cellulis angustis basi laxioribus oblongis lævibus; folia in caulis latere inferiore conformia, tenera; perichætialia interna a basi brevi ovata, enervia, longe subulata, serrulata. Theca ovalis, nutans, collo sensim attenuato; calyptra nuda.

Hab. Andes Peruvianæ, in monte Guayrapurina, ad terram (3000 ped.), *Spruce*, n. 676.

H. Cruegerianæ simillima; foliis autem acutioribus, nullis obtusis intermixtis.

64. H. PARKERIANA (*Hook.*; *Spreng. Syst. Veg.* iv. 197). Dioica; caulis procumbens, ramis pluribus adscendentibus simplicibus ramosisque, ruber. Folia compressa, superiora media intermediaque oblongo-ligulata, angulo obtuso terminata, inferne concava, lateralia patula angustiora acutiora, apice obliqua, inferne subcomplicata, inferiora acutiora, omnia transversim undulata, margine e medio usque ad apicem serrulata, flexuosa, nervis infra apicem desinentibus angustis, dorso apicem versus serrulatis, cellulis angustissimis limitibusque pellucidis lævibus, basilaribus paucis latioribus fulvis; perichætialia longiora, late subulata. Theca in pedunculo lævi, oblonga, horizontalis, peristomii dentibus crassis, interni processibus flavis, in membrana usque ad ⅓ dentium longitudinis exserta impositis; calyptra archegoniis paucis inspersa.

Hookeria gigantea, *Hornsch. in Mart. Fl. Bras. Musc.* 67.

Hab. Guiana, *Parker, Schomburgk, Appun.* Fl. Amazon, *Martius*; fl. Negro in sylvis rivuli Tarumá, ad ramulos, *Spruce*, n. 708; fl. Uaupés, loco Panuré, *Spruce*, n. 709.

Caulis, ut in speciminibus parum perfectis invenitur, repens, radicans, ramos 1–1½ unciam longos emittens. Folia 1½-linearia, straminea aureofulvescentia nitida, pulchre undulata. Pedunculus uncialis. Theca cum collo 2-linearis.

Habitu ut videtur a speciebus *H. Cruegerianæ* et *H. undatæ* similibus diversa. Foliatione autem parum recedens.

65. H. LANGSDORFFII (*Hook. Musc. Exot.* t. 121). Monoica synoicave. Folia compressa, complanata, transverse anguste undulata, lateralia patentia oblonga acumine brevi acuta, margine inferiore inflexo complicato, media intermediaque breviora, omnia nervis ultra medium productis, dorso apicibus exstantibus, marginibus superne argute serrulatis, cellulis parvis an-

gustis, superioribus anguste ellipticis lævibus; perichætialia late ovata, acuminata, integerrima, apicibus patulis, nervis fere obsoletis. Theca in pedunculo elongato horizontalis, ovalis, collo sensim attenuato, operculo conico subulirostrato.

Hab. Brasilia, ad Rio de Janeiro, *Langsdorff in Herb. Hooker*; in prov. Ceará, Sierra de Araripé, in rupibus humidis ad cataractam, *Gardner*, n. 86; ad Sta. Catherina, *Tweedie.*

Caules depressi. Folia pallide viridia, sæpe pulcherrime rubescentia, plus minus undulata foveolatave.

66. H. NITENS (*Hornsch. in Mart. Fl. Bras. Musc.* 65). Dioica?, repens, vage ramosa, ramis elongatis complanatis pinnæformibus interdum breviter ramulosis, luteo-viridis nitens. Folia caulina patentia, apice subrecurvata, oblongo-acuminata, basi subdimidiata seu pterygoidea, concava, apice remote et argute serrata, nervis laxis tenuissimis vix conspicuis infra medium evanidis, cellulis angustis parallelogrammicis; perichætialia teneriora, enervia, laxius reticulata, ovato-acuminata, integerrima, hyalina, interiora sensim minora. Theca in pedunculo erecto apice incrassato læviusculo suberecta, ovata, brevis, calyptra basi 6–8-fida, glabra; peristomii dentes externi linea media diaphana exarati, subtilissime trabeculati, margine scabridi, intense rufi, interni pertusi.—*C. Müll. Syn.* ii. 193.

Hab. Brasilia, prope Novo-Friburgum, ad truncos putridos sylvarum umbrosarum, *Beyrich.*

67. H. ACUMINATA (*Mitt.*). Dioica, pinnatim ramosa. Folia compressa, media intermediaque ovato-oblonga, lateralia patenti-incurva, complicata, longiora, marginibus apice flexuosis, omnia nervis dorso denticulatis sub apice abruptis exstantibus, marginibus serrulatis, cellulis parvis oblongis limitibus papilliformibus exstantibus, ad margines inferiores paucis longioribus lævioribus; folia in caulis latere inferiore conformia, teneriora, transverse undulata; ramulina obtusiora, acuta absque acumine, serrulata, nervis magis cristato-dentatis; perichætialia e basi ovata nervis fere obsoletis longe anguste acuminata, serrulata, recurva. Theca in pedunculo superne scabro, breviter ovalis, collo brevi, peristomii dentibus subulatis attenuatis, articulis prominulis, interno flavido; calyptra nuda.

Hab. Andes Quitenses, ad fl. Bombonasa (1500 ped.), *Spruce*, n. 684.

H. Cruegeriana gracilior, sed colore foliorum habituque similis.

68. H. FISSIDENTIOIDES (*Hook. et Wils. in Hook. Ic. Pl.* t. 746 A). Rami depressi, pinnatim ramosi. Folia compressa, complanata, media intermediaque basi paululo latiore ligulato-lanceolata, apice acuta, lateralia patentia longiora, nervis dorso prominulis ultra medium productis, marginibus minute crenulatis, cellulis parvis oblongis interstitiis crassiusculis pellucidis; perichætialia erecta, e basi lata late ligulato-subulata, subintegerrima. Theca in pedunculo brevi apice scabro, ovata, parva, horizontalis, operculo subulato; calyptra nuda.

Hab. Ins. Jamaica, *Purdie.*

Pallide stramineo-viridis, nitens. Folia rigida, sicca immutata. Pedunculus ½-uncialis.

69. H. RUGULOSA (*Mitt.*). Dioica; rami procumbentes, pinnati. Folia compressa, media intermediaque elongate ovata lanceolatave acuminata, lateralia patentia longiora, e basi ovata ligulata, omnia undulis parvis transversalibus, nervis angustis dorso superne serrulatis sub apice abruptis exstantibus, marginibus basi anguste reflexis superne dense subduplicate serrulatis, cellulis angustis limitibus exstantibus minutis papilliformibus; ramulina ligulata, obtusa, serrulata; perichætialia e basi ovata tenuinervata, subulata, serrulata. Theca in pedunculo elongato superne scabro, ovalis, collo brevi; calyptra ramentis paucis crassis pilosa.

Hab. Andes Quitenses, in sylva Canelos, in monte Abitagua (5000 ped.), *Spruce*, n. 683, 670.

H. Cruegerianæ statura similis; foliis autem magis undulatis et pedunculo scabro differt.

70. H. EXIGUA (*Mitt.*). Dioica; rami pinnati. Folia laxe inserta, compressa, media late ovata, intermediaque inflexione marginis uno latere asymmetrica, tenuiacuminata, acumine sæpe curvato, lateralia ovato-lanceolata, acumine latiore, omnia nervis tenuibus ultra medium desinentibus, apicibus dorso subserrulatis, marginibus serrulatis, cellulis inferne pellucidis, superioribus chlorophyllo obscuriusculis, omnibus oblongis limitibus exstantibus papillatis; folia in caulis latere inferiore angustiora, pellucidiora; perichætialia longiora, erecta, e basi ovali subulata, serrulata.

Hab. Andes Quitenses, ad pedem montis Tunguragua (7000 ped.), inter *Lepidopilum radicale*, *Spruce*.

Caulis gracilis. Folia intense viridia.

71. H. SUBSECUNDA (*Mitt.*). Dioica. Folia compressa, subfalcata, in seriebus superioribus fere omnia conformia, media intermediaque ovato-lanceolata, acuminata, lateralia patentia, parum longiora, subcomplicata, nervis usque ad ⅔ folii longitudinis productis dorso apice prominulis serrulatis, marginibus crenulato-serrulatis, cellulis parvis suboblongis limitibus papilliferis subobscuris, in foliis e seriebus inferioribus lævioribus pellucidioribus; perichætialia ovata, subulata, acuminata, acumine latiusculo apice obtuso minute serrulato, nervis tenuissimis. Theca in pedunculo apice scabro, ovalis, collo sensim attenuato; calyptra apice subscabra.

Hab. Andes Quitenses, in monte Tunguragua (7000–8000 ped.), *Spruce*, n. 649.

Rami depressi, intricati. Folia viridia, apicibus acutis latiusculis. Pedunculus ¾-uncialis.

Habitus et statura *H. falcatæ*, foliorum autem acumine brevi et cellulis obscurioribus diversa.

72. H. SINUATA (*Mitt.*). Caulis pinnatim ramosus, ramis decrescentibus.

Folia compressa, laxe imbricata, in ramorum apicibus in cuspidem crassiusculum congesta, media late ovata, concava, acumine curvato terminata, intermedia lateraliaque erecto-patentia, basi excavata, latere inferiore complicato-inflexa, apice subito et præcipue ad latus marginis inferioris oblique sinuato-retusa, acumine angusto flexuoso curvatoque, marginibus limbo e cellularum seriebus 3–4 angustis formato circumdatis, in acumine solo serrulatis, nervis angustis infra medium evanidis, cellulis inferioribus elongate oblongis, superioribus breviter oblongis pellucidis, limitibus subviridibus.

Hab. Andes Quitenses, in valle Pallatanga (7000 ped.), inter *Hypna*, *Spruce*.

Caulis 2-uncialis, ramulis longioribus ½ unciam longis, cum foliis lineam latis. Folia stramineo-viridia, fuscescentia.

H. piliferæ statura et colore foliorum nec non sinuatione apicis flexuraque apiculi valde similis, cellulis autem diversis.

73. H. TENUIFOLIA (*Mitt.*). Synoica; caulis prostratus vel procumbens, parce ramosus. Folia compressa, omnia fere conformia, lateralia patentia, ovato-lanceolata, sensim longe attenuata, apice flexuosa, nervis brevibus angustis inæqualibus longe infra folii medium evanidis, cellulis elongatis pellucidis, basilaribus paucis laxioribus; perichætialia parva, ovata, fusca, acuta. Theca in pedunculo breviusculo, oblongo-cylindracea, arcuata, operculo subulato, peristomii dentibus lamina externa haud divisa internæ coæquali, interni processibus carinatis in membrana usque ad ⅓ dentium longitudinis exserta impositis; calyptra plurifida, tenera.

Hab. Brasilia tropica, *Burchell.*

Caules 2–3 uncias longi, cum foliis latitudine 2-lineares. Folia tenera, nitida, aureo-fulva, sicca parum contracta. Pedunculus ½ unciam longus.

74. H. GUADELUPENSIS (*Brid.* ii. 395, Hypnum). Monoica synoicave. Folia compressa, nervis ad medium productis dorso serrulatis, apicibus prominentibus, marginibus superne serrulatis, denticulis pluribus apicibus gemellis, cellulis elongatis lævibus; perichætialia e basi late ovata longe anguste subulata, serrulata, enervia. Theca in pedunculo gracili, ovalis, minuta; calyptra lævis.

Hookeria repens, *Hook. et Grev. in Brewst. Edinb. Journ.* ii. 231, t. 5; *Schwægr.* t. 274.

Hab. Ins. Sti. Vincentis, *Guilding*; Guadelupe, *Perottet.*

75. H. VARIABILIS (*Hornsch. in Herb. Hook.*). Monoica synoicave, pusilla, gracilis, depressa. Folia compressa, media ovato-lanceolata acuminata, intermedia lateraliaque patentia, falcato-secunda, concava, omnia nervis tenuibus dorso serrulatis ad ⅔ folii longitudinis evanidis, marginibus inferne serrulatis, cellulis angustis, parietibus teneris, limitibus subnodulosis pellucidis; perichætialia a basi parva ovata, enervia, subulata, serrulata. Theca in pedunculo rubro, lævi minuta, oblonga; calyptra apice sublævis.

Hab. Andes Bogotenses, *Weir*, n. 149; Brasilia, Sierra dos Orgaos, in truncis emortuis sylvarum antiquissimarum, *Beyrich*; Rio de Janeiro, *Gardner*; ad viam inter San Paulo et Jundiahy prope Olha da Agua (1800 ped.), *Weir.*

Caules prostrati, $\frac{1}{2}$ unciam longi, ramos vage dispositos 2–3-lineares ferentes, latitudine cum foliis lineam dimidiam vix superantes. Folia pallide viridia. Pedunculus 3-linearis.

H. guadelupensi similis, foliis autem brevioribus acumine latiore minus argute serrulatis diversa.

This minute species appears to be closely allied to *H. hypnacea*; but both C. Müller and Hampe ascribe to that plant a diœcious inflorescence.

76. **H. SUBFALCATA** (*Hampe in Ann. Sc. Nat.* ser. 5. v. 305). Dense cæspitosa, expansa, ramosissima, flavescens vel rufescens; caulis compressus, basi purpureo-fibrillosus, prorepens; ramis apice aduncis, dense foliatis. Folia biformia; majora concava, basi plicato-contracta, immarginata, apice undulato-crispa, superne denticulata; nervis binis flavidis, solidioribus, ad apicem productis; cellulis basilaribus laxioribus, cæteris linearibus, pellucidis; folia dorso papilloso-scabra; minora ovato-lanceolata, piliformi-acuminata, limpido-hyalina, nervis binis brevioribus, lævia; perichætialia latiora, longissime acuminata, apice denticulato-serrata, hyalina, nodulis minutissimis lutescentibus adspersa, cellulis basilaribus luteis, nervis vix indicatis. Seta adscendens, uncialis, glabra, apice incurva, incrassata. Theca elliptico-ovata, rubra, inclinata, ore nigricante; operculo umbonato conico-subulato; peristomii dentibus exterioribus cruentis, lanceolato-subulatis, medio sulcatis; interioris membrana lutescens, cruribus carinatis prominentibus, ciliis brevibus fugacibus interpositis; calyptra glabra, basi 8-fida, pallida, apice fuscata.

Hab. Andes Bogotenses, Tequendama, Pacho et Canoas (2000–2500 metr.), *Lindig.*

Species ex auctore *H. falcatæ* simillima, sed foliis angustioribus nec plicatis diversa.

77. **H. GRACILIS** (*Mitt.*). Folia compressa, concava, nervis ultra medium productis dorso serrulatis, marginibus superioribus denticulis apicibus gemellis serrulatis, cellulis elongatis lævibus; perichætialia ovata, subulata, enervia, serrulata. Theca in pedunculo superne scabro nutans, ovalis, collo sensim attenuato, operculo breviter subulirostrato; calyptra apice scabra.

Hab. Andes Quitenses, *Jameson*; in sylva Canelos, *Spruce.*

Folia viridia fulvescentia. Pedunculus $\frac{1}{2}$-uncialis, gracillimus.

Ab *H. guadelupensi*, statura paululo majore foliis latioribus et seta scabra recedit.

78. **H. VAGA** (*Mitt.*). Folia compressa conformia, lateralia in ramorum apicibus subcuspidato-imbricata, nervis tenuibus dorso superne ser-

rulatis, apicibus exstantibus sub acumine abruptis, marginibus superne argute serrulatis, cellulis elongatis angustis, limitibus in papillas glanduliformes productis; perichætialia a basi ovata subulata, longe attenuata, serrulata, subenervia. Theca in pedunculo apice subscabro, oblonga, collo brevi; calyptra lævis.

Hab. Andes Quitenses, *Jameson.*

Caules in specimine parvo unciales, depressi, vage pinnatim ramosi. Folia sordide viridia fuscescentia. Pedunculus unciam longus, ruber.

Quoad formam foliorum *H. piliferæ* affinis; habitu autem depresso, et colore et cellulis unipapilliferis diversissima.

79. H. GLANDULIFERA (*Hampe in Linnæa,* xxxii. 156). Flaccida, subpinnatim ramosa. Folia compressa, laxe imbricata, lateralia patentia incurva, majora concaviora, nervis sub apice partis ovatæ abruptis dorso serrulatis, marginibus superne serrulatis, cellulis angustis limitibus in papillas minutas exstantibus; perichætialia e basi lata subulata. Theca in pedunculo breviusculo rubro apice scabro inclinata, obovata, collo sensim attenuato; calyptra nuda lævis.

Hab. Andes Bogotenses, Boqueron prope Bogota, infra rupes roridas ad ramulos emortuos putrescentes (8600 ped.), *Weir,* n. 330, 357.

Pallide glauco-viridis, flaccida, altitudine 2-uncialis. Pedunculus ¾-uncialis.

H. vagæ et *H. cavifoliæ* simillima.

80. H. FALCATA (*Hook. Musc. Exot.* t. 54). Folia compressa, inferne concava, acumine plano, nervis dorso superne serrulatis ultra medium productis inæqualibus, in foliis caulis lateris inferioris brevioribus lævibus, marginibus serraturis parvis crebris subduplicatis, cellulis elongatis angustis, dorso limitibus exstantibus sparse papillosis; perichætialia interna basi late ovata, acumine longe loriformi angusto flexuoso serrulato, nervis brevibus fere obsoletis. Theca in pedunculo apice scabro, ovalis, collo sensim attenuato scabro, operculo convexo conico, rostro elongato tenui; calyptra parva, apice subscabra.

Hab. Nova Granata, in convallibus Andium inter Almaguer et Pasto (1200–1300 hexap.), *Humboldt et Bonpland.* Andes Bogotenses, ad viam inter Bogota et Fusagasuga (8600 ped.), ad ramulos, *Weir,* n. 396; Venezuela, *Faji, Moritz*; Guadelupe, *Bertero, Forsstrom.* Andes Quitenses, *Jameson*; in sylva Canelos (3000 ped.), *Spruce,* n. 652; in monte Abitagua (5000 ped.), *Spruce,* n. 653.

Caulis repens, pinnatus, dense intricatus. Folia e viridi aurea fulvaque. Pedunculus uncialis. Peristomium internum in speciminibus originalibus non visum, sed in speciminibus *Weir,* n. 396, processus in membrana quam in icone Hookeriana breviore observantur, ciliis nullis.

81. H. CAVIFOLIA (*Mitt.*). Folia compressa, media superiora late ovata, concava, marginibus incurvis, lateralia patentia latiora uno latere inflexa, nervis apicibus minute exstantibus sæpius lævibus, marginibus

superne serrulatis, cellulis elongatis sublævibus pellucidis; folia in seriebus inferioribus late oblonga subito acuminata; perichætialia breviuscula, basi late ovata, enervia, subulata, serrulata. Theca in pedunculo superne scabro, ovalis, collo sensim attenuato; calyptra apice scabra.

Hab. Andes Quitenses, in monte Tunguragua, *Spruce.*

H. falcatæ similis; foliis autem latioribus acumine breviore fere lævibus, perichætialibus brevioribus diversa.

82. H. ADUNCA (*Mitt.*). Folia compressa, concava, acumine planiusculo curvato, nervis ad acuminis basin productis dorso serrulatis, marginibus a medio ad apicem dense arguteque serrulatis, cellulis parvis angustis limitibus prominentibus papillosa; perichætialia ovato-subulata, dense serrulata, tenuinervata. Theca in pedunculo elongato superne aspero, ovalis, nutans.

Hab. Andes Peruvianæ, Tarapoto ad caput fl. Cumbasa, in trunco carioso, *Spruce,* n. 650.

H. falcatæ omnino simillima, sed pedunculo superne aspero, foliis perichætialibus brevioribus et florescentia dioica diversa.

83. H. CURVIFOLIA (*Mitt.*). Folia compressa, imbricata, concava, nervis sub apice dorso apicibus exstantibus denticulatis abruptis, marginibus a medio ad apicem argute serrulatis, cellulis parvis angustis limitibus in papillis exstantibus; perichætialia e basi lata ovata, subenervia, subito subulata, serrulata. Theca in pedunculo inferne lævi apicem versus scaberrimo, ovalis, inæqualis, inclinata subhorizontalisve, operculo longe tenuirostrato; calyptra elongata, apice scabra.

Hab. Andes Quitenses, in montibus Paila-urcu prope Penipe (9000 ped.), *Spruce,* n. 675, et Tunguragua (8000 ped.), *Spruce,* n. 674.

Statura *H. falcatæ* similis. Folia intense viridia.

84. H. SCABRELLA (*Mitt.*). Folia compressa, parum concava, nervis ultra medium evanidis dorso apicibus denticulatis exstantibus, marginibus a medio ad apicem serrulatis, cellulis parvis angustis lævibus limitibus protuberantibus papilliformibus; perichætialia majora, e basi late ovata enervi longe subulata, flexuosa, serrulata. Theca in pedunculo ubique aspero, ovalis, inæqualis, collo sensim attenuato, operculo convexo tenuirostrato; calyptra apice scabra.

Hab. Andes Quitenses, in monte Tunguragua (7000 ped.), *Spruce,* n. 658.

H. falcatæ simillima. Folia viridia, cellulis parvis prominulis. Pedunculus ubique asper.

85. H. VIRIDISSIMA (*Mitt.*). Repens, pinnatim ramosa. Folia compressa, media anguste ovato-lanceolata acuminata, lateralia erecto-patentia falcata concava, acumine longiore flexuoso, in caulis latere inferiore basi latiora, media ovata acuminata tenera pellucida, nervis superne dentatis infra acumen abruptis, marginibus serratis, cellulis foliorum superiorum angustissimis brevibus limitibus prominulis noduloso-papillosis; perichætialia lanceolato-subulata, tenera, serrulata. Theca in pedunculo elongato apice lævi, oblonga; calyptra lævis.

Hab. Nova Granata; fl. Magdalena, in sylvis humidis ad terram super ramulos emortuos repens (500 ped.), *Weir*, n. 381.

Habitu, magnitudine coloreque *H. falcatæ* simillima, sed paululum gracilior, apicibus foliorum minus angustatis.

86. H. VELUTINA (*Hampe in Linnæa*, xxxi. 528). Minor, intense viridis nitens; caulis crassiusculus, prostratus breviter ramosus, subcomplicatus, angustus. Folia undique laxe imbricata, subdisticha, flexuosa, mollia, apice serrulata, nervis binis basi remotis gracilibus inæqualibus supra medium dissolutis, cellulis anguste pentagonis nodulis chlorophyllosis anastomosantibus diaphana. Seta gracilis, rufo-fusca, apice scabro inclinata. Theca angusta, oblongo-cylindrica, brunnescens, subpendula, operculo conico subulato recto pallido; calyptra basi lobata, apice scabriuscula; dentibus peristomii albidis.—*Hampe, l. c.*

Hab. Andes Bogotenses, Bogota, Cipacon, et Tequendama (2500–2600 metr.) in sylvis ad truncos arborum, *Lindig*.

"Ab *H. hypnacea* simillima colore viridi, foliis nodulis chlorophyllosis obtectis et seta apice scabriuscula diversa."—*Hampe in Ann. Sc. Nat.* ser. 5. v. 305.

87. H. HYPNACEA (*C. Müll. in Bot. Zeit.* 1856, 421). Decumbens, intricata, e viridi flavescens, pusilla, irregulariter pinnatim divisa, ramis gracilibus complanatis apice parum falcatis. Folia caulina laxe conferta, concava, acumine latiusculo parum curvato, margine erecto vel parum reflexo, ubique fere distincte regulariter serrulato, nervis binis tenuibus parallelis, ante acumen abruptis, dorso folii callosis et serrulatis, cellulis pellucidis laxiusculis teneris ubique fere æqualibus; perichætia minuta, foliis parvis, caulinis similibus, sed basi vaginantibus, interioribus enerviis et infra acumen magis reflexum integris. Theca in pedunculo gracillimo semiunciali glabro flexuoso rubro horizontalis vel nutans, brunnea, minuta, e collo glabro brevi oblonga, ore subconstricta, operculo cupulato turgido pallidiore et in subulam rectam producto; peristomio parvo; dentes externi angusti, margine lamelloso-cristati, medio linea latiuscula pallide flava exarati, interni angustissimi carinati, vix hiantes, flavidi; calyptra operculum totum detegens glabriuscula, angustissime cylindrica, basi latiore laciniata.—*C. Müll. l. c.*

Hab. Andes Bogotenses, Tequendama (2500 met.), *Lindig*. Brasilia, Sta. Catharina, in truncis putridis prope Rio de Velha, *Pabst*.

"Ab *H. guadelupensi* atque *H. falcata* foliis laxiuscule reticulatis pellucidis jam recedit."

Subsect. 3. *Hylotapis*, Spruce, Cat. 10.

Musci caulibus pinnatim ramosis, procumbentibus vel repentibus. *Habitatio* ad ligna putrida, etiam in saxa locis humidis.

88. H. PALLESCENS (*Hook. Musc. Exot.* t. 38). Monoica. Folia ramea ramulinaque erecto-patentia, imbricata, compressa, oblonga, apice

marginibus involutis papilloso-crenulatis obtusa recurva acuminatave, nervis pallidis teneris vix ad medium productis, cellulis elongatis papillis seriatis basi paucis lævibus; perichætialia ovata, brevia, enervia. Theca in pedunculo elongato apice scabro nutans pendulave, ovalis, collo rugoso.

Hab. Fl. Orinoco prope Esmeraldas, *Humboldt et Bonpland*; fl. Negro, S. Gabriel, *Spruce*, n. 615; ibidem in lignis, *Spruce*, n. 618; Serra do Gama, in truncis emortuis sylvarum humiliorum, *Spruce*, n. 617; S. Carlos et fl. Casiquiari supra folia viminaque emortua, *Spruce*, n. 619; ibidem in sylvarum humiliorum lignis, *Spruce*, n. 621; fl. Amazon, Pará in sylvis, *Spruce*, n. 616. Andes Quitenses, fl. Bombonasa ad arbores (1500 ped.), *Spruce*, n. 620.

Rami rubri, repentes, valde intricate cæspitosi. Folia pallide viridia albescentia. Pedunculus 1–1½-uncialis.

89. H. CYMBIFOLIA (*Hampe in Linnæa*, xxv. 362). Synoica; rami pinnati. Folia subcompressa, patenti-incurva, imbricata, obtusa, excavata, nervis teneris brevibus fere obsoletis, marginibus apicem versus involutis papilloso-crenulatis, cellulis angustis elongatis, papillis elevatis seriatis, basi paucis lævibus; ramulina tereti-imbricata; perichætialia ovata, obtusa, enervia, læviora. Theca in pedunculo crassiusculo elongato rubro lævi nutans, oblonga, collo rugoso; calyptra pallida.

Hab. Ins. Porto Ricco, *Schwanecke*; Cuba, *Wright*, n. 86.

Caulis ruber, in cæspite denso intricatus. Folia pallide glauco-viridia. Pedunculus 9-linearis.

H. pallescenti simillima, sed folia breviora incurva apice haud recurva.

90. H. DIVERSIFOLIA (*Mitt.*). Dioica, rami pinnatim ramosi. Folia imbricata, compressa, superiora media acuta concava, lateralia conformia, apicibus ob margines inflexos subrecurvo-cuspidatis, inferiora latissime ovata, obtusiuscule acuta, subplicata, omnia nervis flavis ultra medium evanidis dorso inconspicuis, marginibus summo apice subcrenulatis integerrimisve, inferne angustissime reflexis, cellulis angustis, superioribus singulis papillis tribus armatis; perichætialia e basi suborbiculari brevinervata longe loriformi-producta, falcato-secunda, apicibus subserrulatis. Theca in pedunculo elongato scabro, oblonga, inclinata, collo crassiusculo; calyptra scabra.

Hab. Andes Quitenses, in sylva Canelos (3000 ped.), *Spruce*, n. 678.

Rami 2–3-unciales, ramis variæ longitudinis pinnati, latitudine cum foliis ½-lineares. Folia nitida, aureo-fulva. Pedunculus uncialis.

91. H. PILIFERA (*Hook. et Wils. in Hook. Lond. Journ.* iii. 160). Monoica; rami pinnati, diffusi. Folia imbricata, compressa, lateralia patenti-incurva subcomplicata, concava, nervis infra apicem partis ovalis dorso prominulis serrulatis abruptis, marginibus superne minute serrulatis in acumine dense denticulatis, cellulis basi laxioribus lævibus oblongis, superioribus elongatis, singulis papillis 3–4 minutis; perichætialia interna

e basi orbiculata in acumen elongatum flexuosum producta, enervia, serrulata. Theca in pedunculo elongato apice subscabro, ovalis, collo sensim attenuato; calyptra nuda, lævis.

Hab. Andes Bogotenses (2900–3000 metr.), *Lindig.* Andes Quitenses, Quito, *Jameson*; Brasilia, Sierra dos Orgaos, *Gardner*, n. 89; Parana, in Sierra de Morretes (2000 ped.), ad rupes lignaque sub rore cataractæ, *Weir*, n. 2.

Rami elongati. Folia pallide glauco-viridia, fulvescentia.

92. H. WRIGHTII (*Sulliv. et Lesquereux*). "Dioica, majuscula, prostrata, dense pinnatim ramulosa, subcompresse foliosa. Folia marginibus infra acumen convolutis, cellulis angustissime linearibus, costis binis ad medium evanidis. Capsula oblonga, inæqualis, macrostoma, inclinata, peristomio normali, operculo convexo conico recte rostrato, calyptra e basi mitriformi multifida longe rostrata."

Hab. America centralis ad montem in Lacu Nicaragua cum *Hypno ometepensi.—Sulliv. et Lesquereux.*

93. H. LEPTORRHYNCHA (*Hook. et Grev. in Brewst. Edinb. Journ. Sc.* ii. 228, t. 5). Dioica? Folia subcompressa, laxe imbricata, superiora anguste lanceolata acuminata, lateralia oblonga subulato-attenuata, nervis lævibus apicibus exstantibus foliorum inferiorum tenuioribus, cellulis angustis singulis papillis quatuor prominentibus; perichætialia lanceolata, longe subulato-acuminata, acumine flexuoso dentato. Theca in pedunculo scabro, oblongo-cylindracea, operculo convexo longe tenuirostrato; calyptra superne scabra.

Hookeria cupressiformis, *C. Müll. Syn.* ii. 215.

Hab. Ins. Sti. Vincentis, *Guilding*; Trinidad, *Crüger.*

Repens, intricata. Folia pallida, tenera. Pedunculus 6-linearis. Theca interdum junior erecta, deinde horizontalis, pro planta satis magna.

94. H. FILIFORMIS (*Hook. in Spreng. Syst. Veg.* iv. 197). Monoica? Folia compressa, imbricata, concava, nervis sub apice partis ovalis dorso apicibus prominentibus inconspicuis lævibusve, marginibus incurvis superne remote serrulatis, cellulis angustis papillis tribus brevibus seriatim dispositis; perichætialia e basi ovata longe anguste flexuoso-attenuata, denticulata, breviter nervata. Theca in pedunculo superne scabro, "cylindracea, oblonga, minute verrucosa, operculo conico oblique rostellato."—*C. Müll. Syn.* ii. 212.

Hab. Ins. Guadelupe, *Sprengel*; Sti. Vincentis, *Herb. Hooker.*

H. leptorrhynchæ simillima, foliis autem latioribus lævioribusque.

Subsect. 4. *Thamnopsis.*

95. H. PENDULA (*Hook. Musc. Exot.* t. 53). Dioica; rami arcuati, innovationibus proliferis erectioribus deinde decumbentibus bipinnatim ramosi, arbusculosi. Folia compressa, media intermediaque late ovato-ligulata obtusa, angulo parvo, lateralia erecto-patentia, complicata, oblonga,

obtusa, nervis tenuibus dorso inconspicuis supra medium evanidis, marginibus integerrimis, cellulis parvis elongatis limitibus incrassatis haud prominulis; ramulina conformia, subacuta; perichætialia interna e basi ovata brevinervata, longe subulata, apice serrulata. Theca in pedunculo longissimo lævi pendula, oblonga, collo crasso elongato, peristomii dentium lamina externa inferne divisa, interni ciliis rudimentariis inter processus carinatos impositis.

Hab. In jugis Andium regione temperata, *Humbolt et Bonpland.* Andes Quitenses, in sylva Canelos ad saxa lignaque (3000 ped.), *Spruce*, n. 687, 688.

Folia polymorpha, nunc distiche compressa lateralia oblongo-ligulata planiuscula apice subundulata, nunc in eodem ramo brevia ovato-ligulata, lateralia apicibus complicatis veluti acutis, interdum concava apice subcucullato-inflexa, marginibus integerrimis, in foliis lateralibus planioribus autem crenulatis.

65. Lepidopilum, Brid. ii. 267.

Musci caulibus repentibus, ramis fertilibus ramosis, rarissime e caule primario fructiferis. Folia ut plurimum compressa, in series dispares 10 disposita, raro seriebus mediis intermediisque superioribus et inferioribus obsoletis, e cellulis elongatis ut plurimum nitidis areolata, limbo distincto vel obsoleto marginata. Theca in pedunculis sæpius asperis erectæ inclinatæve, operculis subulato-acuminatis, peristomii dentibus lamina externa contracta angusta rarissime cum interna coæquali, interni processibus angustis carinatis convexisve in membrana brevi impositis vel sessilibus; calyptris basi fimbriatis sæpe ramentis inspersis.

Sect. 1. Isodrepanium. *Folia tetrasticha, omnia æqualia.*
Species unica .... 1. *L. membranaceum.*

Sect. 2. Tetrastichium. *Folia tetrasticha, inæqualia, seriebus in caulis latere superiore minoribus.*
Folia lateralia oblonga, acuta v. breviter acuminata.
2. *L. Patrisiæ.*
Folia lateralia ovato-oblonga .... 3. *L. Splitgerberi.*
Folia lateralia oblongo-obovata .... 4. *L. epiphyllum.*

Sect. 3. Actinodontium. *Folia in series* 10 *disposita, subæqualia. Caulis brevis, subsimplex.*
Species unica .... 5. *L. Sprucei.*

Sect. 4. Helicoblepharum. *Folia in series* 10 *disposita, æqualia. Caulis procumbens, ramosus.*
Folia ovali-lanceolata, acuminata .... 6. *L. venustum.*

Folia oblongo-lanceolata, attenuata .... 7. *L. Daltoniaceum.*
Folia oblongo-lanceolata, apice flexa acuminata planiuscula.
8. *L. aurifolium.*
Folia ovalia, breviter acuminata.............. 9. *L. fuscidulum.*
Folia oblongo-lanceolata, obtusiuscule acuta .. 10. *L. imbricatifolium.*

Sect. 5. PEROMILLA. *Folia in series* 10 *disposita, subæqualia. Caulis erectus, apice attenuatus.*
Species unica .... 11. *L. erectiusculum.*

Sect. 6. EULEPIDOPILUM. *Folia in series* 10 *disposita, inæqualia, lateralia in plana verticali.*
Folia margine cellulis angustioribus in series plures dispositis limbata.
Pedunculus scaber.
Folia lateralia oblonga, in acumen semitortum producta.
12. *L. polytrichoides.*
Folia subrotundo-ovata, acumine brevissimo plicato terminata.
13. *L. surinamense.*
Folia ovato-ligulata, acuminata .... 14. *L. stillicidiorum.*
Folia oblongo-spathulata, obtusa, acumine brevi subtorto, pedunculus scaberrimus .... 15. *L. tortifolium.*
Folia oblonga subtorta acuminata, pedunculus spiculoso-papillosus.
16. *L. curvifolium.*
Folia anguste elongate spathulata, apice sensim acuminata.
17. *L. arcuatum.*
Folia orbicularia, acumine semitorto...... 18. *L. inflexum.*
Pedunculus lævis .... 19. *L. flexifolium.*
Folia limbo obsoleto immarginata.
Pedunculus rectus, brevis.
Calyptra nuda.
Flores monoici vel synoici.
Folia lateralia ligulata, arcuata, apice sensim acuta acuminatave.
20. *L. brevipes.*
Folia lateralia oblongo-ovata, acuta subacuminatave.
21. *L. subfuscum.*
Folia lateralia lanceolata, subulato-acuminata.
22. *L. nudum.*
Folia lateralia angustiuscule oblonga, acuminata.
23. *L. intermedium.*
Folia e basi anguste ovato-oblonga longe acuminata.
24. *L. convallium.*
Folia lateralia anguste elliptico-lanceolata, sensim subulato-angustata....................... 25. *L. antillarum.*
Flores dioici.
Folia lateralia elliptica, oblique acuminata.
26. *L. calvum.*

Folia lateralia subelliptica, sensim acuminata.
27. *L. gracile.*
Folia lateralia ovalia, acuta .... 28. *L. splendidissimum.*
Calyptra ramentosa.
Folia lateralia ovato-oblonga, acuminata.
29. *L. radicale.*
Folia lateralia ovato-lanceolata ...... 30. *L. cuspidans.*
Pedunculus brevis, curvatus.
Folia lateralia ovali-lanceolata, sensim acuminata. Pedunculus setulosus. .... 31. *L. anceps.*
Folia lateralia ovali-lanceolata, acuminata. Pedunculus asper.
32. *L. divaricatum.*
Folia lateralia lanceolata, acuminata. Pedunculus spiculosus.
33. *L. acutum.*
Pedunculus elongatus.
Flores monoici.
Folia lateralia ligulato-lanceolata, subulato-acuminata.
34. *L. Mülleri.*
Folia lateralia lanceolata, acuminata .... 35. *L. subulatum.*
Flores dioici.
Folia lateralia ligulata, arcuata, apice sensim acuminata.
36. *L. latifolium.*
Folia lateralia oblonga, sensim acuminata.
37. *L. armatum.*
Folia lateralia anguste ligulata, apice obtusa acutave, interdum acuminata. .... 38. *L. Grevilleanum.*
Folia lateralia oblongo-lanceolata, subarcuata, apice latiuscule acuta subtorta .... 39. *L. frondosum.*
Folia lateralia ovali-ligulata, apicem versus transversim undulata vel lævia .... 40. *L. pumilum.*
Folia lateralia ligulato-lanceolata, sensim subulato-acuminata.
41. *L. pectinatum.*
Folia lateralia oblongo-elliptica, obtusiuscula acutave.
42. *L. amplirete.*
Folia lateralia sublanceolato-oblonga, acuminata.
43. *L. diaphanum.*
Folia lateralia oblongo-ovata, in acumen subulatum angustum producta .... 44. *L. tenuifolium.*
Folia lateralia ovata, acuminata........ 45. *L. integerrimum.*
Folia lateralia ligulata, acuta, apice caviuscula.
46. *L. caviusculum.*
Folia lateralia ovata oblongo-ovatave, acumine brevi acuta.
47. *L. oblongifolium.*
Folia lateralia lanceolata, subnervata, acuminata.
48. *L. subenerve.*

Folia lateralia longissime angustissime acuminata, maxime plicata. 49. *L. Deppeanum.*

Folia lateralia oblique late ovata, acuminata. 50. *L. angustifrons.*

Folia lateralia anguste oblongo-lanceolata, elongata, piliformi-acuminata .... 51. *L. longifolium.*

Folia lateralia ovalia, subulato-acuminata. 52. *L. cubense.*

Folia lateralia spathulata, acuta........ 53. *L. phyllorhizum.*

Folia lateralia angusta, elongate lanceolata, sensim acuminata. 54. *L. chloroneuron.*

Folia lateralia lato-ovata, breviter acuminata. 55. *L. brevifolium.*

Folia lateralia subspathulata, apice acuta subtorta. 56. *L. semilæve.*

Folia lateralia oblonga, sub apice excavata, acumine planiusculo flexuoso curvato .... 57. *L. robustum.*

Sect 1. *Isodrepanium.*

1. L. MEMBRANACEUM (*C. Müll. Syn.* ii. 200, Hookeria). Dioicum ?; rami elongati, ramulis divergentibus iterum ramosis pinnatim divisi. Folia compressa, lateralia a basi subsaccata subovato-acuminata, margine inferiore sinuato-arcuata, nervis brevissimis fere obsoletis, margine apicem versus minutissime serrulata, cellulis angustissimis.

Hab. Ins. Trinidad, *Crüger*; Barbadoes, *Parker, Herb. Hooker.* Venezuela, prov. Caracas (4000 ped.), *Funck et Schlim,* n. 370. Andes Quitenses, in monte Abitagua (6000 ped.), *Spruce,* n. 740.

Rami 2–8-unciales, in plana ramosi, cum foliis 2 lineas lati. Folia juniora pallide viridia, splendentia fuscescentia.

Sect. 2. *Tetrastichium,* Mitt. in Journ. Linn. Soc. viii.

Musci caulibus per longitudinem repentibus radicantibusque, vel ramis nonnullis liberis. Folia lata, nitida. Thecæ inclinatæ, pedunculo longiusculo superne scabro exsertæ. *Habitatio* ad folia, etiam ad ligna, rarius in terram.

2. L. PATRISIÆ (*Brid.* ii. 539, Hookeria; *Hampe, Ic.* t. 1). Dioicum, prostratum. Folia compressa, lateralia divergentia, apice plica plus minus profunde carinata, basi rotundata, parum asymmetrica, nervo brevi sæpius obsoleto, margine ubique serrulata, superiora breviora patentia, cellulis elongatis angustis pellucidis; perichætialia erecta, ovato-acuminata, serrulata. Theca in pedunculo superne scabro, oblonga, inclinata, leptoderma, operculo longe subulirostrato; peristomii dentes teneri, cellulis strati interioris fere obsoletis, interni æquilongi carinati erosi, in

membrana brevi exserta impositi; calyptra ultra basin operculi vix descendens, basi filis articulatis fimbriata.

Hab. Ins. Trinidad, *Crüger*; Guiana in foliis *Patrisiæ papyriferæ.* Fl. Negro, San Carlos, ad arbores pomiferas, *Spruce,* n. 793, 796; São Gabriel, *Spruce,* n. 795, 797; fl. Huallaga, Yurimaguas, *Spruce,* n. 798, 791. Andes Quitenses, fl. Bombonasa (1200 ped.), *Spruce,* n. 790 (forma foliis latioribus); Quito, *Jameson.* Andes Peruvianæ, in monte Campana; *Spruce,* n. 792. Brasilia, Montevideo, *Sellow.*

3. L. **Splitgerberi** (*Mont. Syll.* 14, Hookeria). Repens; caule complanato fusco radiculoso bipinnato ramosissimo, ramis alternis patentibus, ramulis extremis julaceis falcato-incurviusculis. Folia dimorpha, caulina quadrifariam imbricata, acuminata, acumine plicato torto, media erectiuscula, lateralia patenti-subrecurva, ramulorum subjulaceorum conferta ovato-subrotundata acuminulata inæquilatera siccitate subcucullata, omnia siccitate contorta. Fructus ignotus.—*Mont. l. c.*

Hab. Surinam, in folio coriaceo, *Splitgerber.*

" Habitus jungermannioideus."—*Mont. l. c.*

4. L. **epiphyllum** (*Mitt.*). Dioicum. Folia complanata, lateralia divaricata, apiculo parvo subplicato, superiora patentia, breviora, rotundo-ovata, acutiora, enervia, marginibus apice serrulatis, cellulis elongatis angustis; perichætialia erecta, ovata, acuminata. Theca in pedunculo superne scabro, oblonga, inclinata, operculo subulato; calyptra basi fimbriata.

Hab. Andes Quitenses, in sylva Canelos (3000 ped.), *Spruce,* n. 800; Chimborazo (3000 ped.), ad folia, *Spruce,* n. 801.

Rami cum foliis vix lineam lati. Folia viridia, nitida. Pedunculus 4-linearis.

Quam *L. Patrisiæ* minor, arctius adpressa, foliis obtusioribus et operculo breviore.

Sect. 3. *Actinodontium*, Schwægr. ii. 2. p. 75.

5. L. **Sprucei** (*Mitt.*). Dioicum; rami breves. Folia compressa, lateralia patentia, omnia ligulato-oblonga, acuta, nervis medio desinentibus, marginibus recurvis reflexisve integerrimis, cellulis elongate oblongis pellucidis; perichætialia parva, lanceolata. Theca in pedunculo elongato lævi, cylindracea, operculo subulato-acuminato, peristomii dentibus elongatis, cellulis laminæ externæ angustioris luteis pellucidioribus, laminæ interioris punctulato-obscuris, interni processibus angustis obscuris, ad dentium basin usque discretis; calyptra infra thecæ medium descendens nuda.

Hab. Andes Quitenses, in sylva Canelos (3000 ped.), *Spruce.*

Rami vix ultra lineas tres producti, cum foliis 1½ lineam lati. Folia nitida, straminea, viridia. Pedunculus 6–7-linearis.

Species *L. ascendenti,* Schwægr. *t.* 174, ex insula Javæ habitu similis, foliis autem patentioribus acutioribusque differt.

Sect. 4. *Helicoblepharum,* Spruce.

Musci graciles, caulibus breviusculis cæspitosis vix repentibus. Folia parva, subcompressa. Thecæ in pedunculo brevi vel longiusculo scabro erectæ inclinatæve. *Habitatio* ad arbores.

6. L. VENUSTUM (*Tayl.*; *Mitt. in Hook. Kew Journ.* iii.). Dioicum; rami breves, depressi, ramosi. Folia subcompressa, lateralia patentia, omnia concava, marginibus planiusculis superne minute serrulatis subintegerrimis interdum reflexis, nervis supra medium evanidis, cellulis parvis angustissimis oblongis, limitibus prominentibus papilliformibus; perichætialia longiora, lanceolato-subulata. Theca in pedunculo elongato, oblonga, erecta inclinatave, sicca subarcuata, operculo subulato; calyptra infra medium thecæ descendens, ramentis angustis fuscis divaricatis inferioribus pendulis vel fere ubique nuda.

Hab. Andes Quitenses, *Jameson.* Baños ad arbores (6000 ped.), *Spruce,* n. 774; Penipe (8000 ped.), *Spruce,* n. 775; Leito ad arbores (8000 ped.), *Spruce,* n. 776; ad pedem montis Tunguragua (7000 ped.), *Spruce,* n. 777.

Rami ½-unciales, latitudine cum foliis lineam paululo excedentes. Folia viridi-straminea fulvaque, obscura. Pedunculus 4-linearis.

7. L. DALTONIACEUM (*Hampe in Linnæa,* xxxii. 152). Minus, *Daltoniæ* simillimum, caule procumbente adscendente parce ramoso undique foliato. Folia caviuscula, latere parce convexo-striato laxe imbricata, flexuosa, humida erecta patentia, parce flexa, acuminata, immarginata, integerrima, nervis binis flavidis basi propinquis supra medium folii patenti-divergentibus productis, cellulis alaribus rotundato-angulatis pellucidis, intermediis elliptico-linearibus versus apicem densioribus abbreviatis, ubique interstitiis nodulosis punctatis hyalina; perichætialia tenuiora et breviora, ovato-acuminata, enervia, cellulis basilaribus aureis, cæteris rhomboideo-ellipticis, supremis linearibus parcius noduloso-punctatis, magis hyalina. Seta erecta, caulem superans. Theca oblongo-cylindrica; calyptra pallente laciniato-lobata, demum basi ciliis brevioribus catenulatis fimbriata.—*Hampe, l. c.*

Daltonia binervis, *Hampe in Ann. Sc. Nat.* ser. 5. iv. 364.

Hab. Andes Bogotenses, Rio Arzobispo (2700 metr.) ad truncos arborum, *Lindig.*

Daltoniæ ex habitu simillimum; calyptra lobata foliisque immarginatis binervibus magis ad *Lepidopilum* spectans.—*Hampe, l. c.*

8. L. AURIFOLIUM (*Mitt.*). Dioicum; rami humiles, ramosi. Folia laxe compressa, lateralia patentia, omnia concava, marginibus recurvis reflexisve integerrimis, nervis sub apice evanidis, dorso versus apicem prominulis

subserrulatis, cellulis angustissimis elongatis lævibus; perichætialia erecta, lanceolata, integerrima. Theca in pedunculo subscabro suberecta, oblonga, operculo subulato, peristomii dentibus elongatis, processibus æquilongis punctulatis.

Hab. Andes Quitenses, *Jameson*; in sylva Llalla ad ramulos (8000 ped.), *Spruce*, n. 764.

Rami ½–1-unciales, graciles, rubri, cum foliis lineam lati. Folia aurea nitida, fulvescentia. Pedunculus 6-linearis.

9. L. FUSCIDULUM (*Mitt.*). Dioicum; rami in cæspitibus humilibus congestis subpinnatim ramosi. Folia laxe imbricata, compressa, lateralia patentia, latere inferiore inflexo, omnia concava, apice plana, marginibus reflexis basi angulis rotundatis, nervis infra medium evanidis, cellulis angustissimis oblongis pellucidis lævibus; perichætialia longiora, erecta, ovata, acuminibus brevibus latis serrulatis. Theca in pedunculo papilloso scabro, ovalis; calyptra ad thecæ basin descendens, superne ramentis brevibus inspersa.

Hab. Andes Quitenses, ad fl. Pastasa superius loco Antombos (4000 ped.), *Spruce*, n. 788.

Caulis prostratus, ramis 3–6-linearibus adscendentibus, cum foliis lineam latis. Folia e pallide viridi straminea, fulvescentia. Pedunculus 6-linearis.

10. L. IMBRICATIFOLIUM (*Mitt.*). Rami pinnati, ramulis nonnullis longioribus iterum pinnatis. Folia imbricata, subcompressa, lateralia erecto-patentia, intermedia mediaque ovata acutiora, omnia parum concava, sub apice transverse subundulata nervis tenerrimis, brevibus, marginibus minute serrulatis, cellulis angustissimis elongatis.

Hab. Andes Quitenses, in sylva Canelos (3000 ped.), *Spruce*, n. 787. Andes Peruvianæ, Tarapoto, in saxis (1500 ped.), *Spruce*, n. 786.

Rami graciles, rigiduli, 1–1½-unciales, apicibus sæpe attenuatis, cum foliis semilineam lati. Folia stramineo-viridia, nitida, ad ramulorum apices in cuspidem imbricata.

Sect. 5. *Peromilla*, Spruce.

11. L. ERECTIUSCULUM (*Tayl. in Hook. Lond. Journ.* v. 60, Hookeria). Rami parce ramosi. Folia ad ramorum apices minora, erectiora, in cuspidem attenuatum congesta, compressa, lateralia patenti-divergentia, ovali-oblonga, acuminata, concava, margine inferiore late inflexo complicatove, intermedia mediaque ovalia concava plicata, omnia nervis inæqualibus supra medium productis, marginibus superne serrulatis flexuosis, cellulis ellipticis pellucidis; perichætialia parva, subulata. Theca in pedunculo elongato papilloso scabro, oblonga, erecta suberectave, operculo subulato, peristomii dentibus elongatis processibusque æquilongis luteis; calyptra ramentis obtecta, ultra thecæ medium descendens.

Hab. Andes Quitenses, prope Esmeraldas, *Jameson*; in sylva Canelos (3000 ped.), *Spruce*, n. 734. Andes Chilenses, Sachapata, *Lechler*.

Rami 1–1½-unciales, cum foliis 2½ lineas lati. Folia viridia, straminea, fuscescentia, nitida. Pedundulus 8–9-linearis.

Sect. 6. *Eulepidopilum.*

Musci humiles vel elati, interdum robusti, ramis e caule repente oriundis simplicibus furcatim divisis vel superne subpinnatis. Folia ut plurimum compressa, lateralia majora. Thecæ in pedunculo brevissimo vel elongato sæpius scabro exsertæ, erectæ vel inclinatæ, operculis recte subulatis. *Habitatio* in arboribus.

12. L. POLYTRICHOIDES (*Hedw. Sp. Musc.* t. 61, Hypnum). Synoica; caulis primarius repens, rami simplices divisive. Folia inferiora majora, superiora decrescentia, compressa, lateralia patenti-divergentia, margine inferiore a medio ad basin usque complicate inflexo, superiora angustiora subarcuata incurva appressa, media intermediaque erecto-patentia, late ovata, acuminata, asymmetrica, omnia nervis divergentibus infra medium evanidis, marginibus denticulis aculeiformibus serratis, cellulis oblongis utriculo contracto repletis, ad margines angustioribus. Fructus ex foliorum superiorum axillis. Folia perichætialia parva, ovalia, acumine serrulato. Theca in pedunculo brevi ultra apices foliorum lateralium haud exserto, oblonga, erecta, operculo elongate conico acutissimo, peristomio magno, dentibus angustis elongatis; calyptra apice scabra, ramentis paucis divergentibus curvatis latiusculis.

Hookeria Perrini, *Spreng.*?

Chætophora Perrini, *Brid.* ii. 336?

H. rigida, *Arn. Disp. Méth. Mousses,* 55?

Hab. Ins. Hispaniola, Jamaica, *Swartz, Heward, Purdie, Wilson*; Martinique, *Sieber*; Trinidad, *Crüger*; Mexico, *Ruiz et Pavon*; Venezuela, *Funck et Schlim.* Andes Bogotenses, montana de Sogamoza (5000 ped.), in caulibus fruticum, *Weir,* n. 391. Fl. Negro, S. Gabriel, *Spruce,* n. 714. Andes Quitenses, fl. Bombonasa (1200 ped.), *Spruce,* n. 713; Chimborazo, in sylvis (3000 ped.), *Spruce,* n. 717; fl. Amazon superius, in sylvis ripariis infra fl. Huallaga ostia, *Spruce,* n. 716. Andes Peruvianæ, in montibus Campana (3000 ped.), *Spruce,* n. 715; Guayrapurina, in ramis (3000 ped.), *Spruce,* n. 718.

Rami 2–4 uncias alti, cum foliis 6 lineas lati. Folia viridia, deinde lutescenti-straminea, vix siccitate contracta.

13. L. SURINAMENSE (*C. Müll. in Linn.* xxi. 193; *Syn.* ii. 207). *L. polytrichoidi* proximum, sed humilius. Folia symmetrica, latissima, supra basin simpliciter, superne grosse dentata, cellulis minoribus; perichætialia anguste lanceolato-acuminata, remote dentata, caviuscula.—*C. Müll. l. c.*

Hab. Surinam, in sylvis primævis prope Mariepaston, ad truncos arborum, *Kegel.*

14. L. STILLICIDIORUM (*Mitt.*). Dioicum?; rami rigiduli, elongati,

graciles. Folia compressa, lateralia patenti-divergentia, dimidio imferiore ovata, superiore ligulato-acuminata, margine inferiore complicato, intermedia patentia breviora ovato-ligulata acuminata, media appressa late ovata acuminata, omnia nervis supra medium evanidis, marginibus denticulis brevissimis apice serrulatis, cellulis oblongis subhexagonis, ad margines seriebus duabus longioribus in limbum subconflatis.

Hab. Andes Quitenses, in sylva Canelos in stillicidiis (3000 ped.), *Spruce*, n. 735.

Rami 3-unciales simplices, cum foliis 2½ lineas lati. Folia breviuscula, luteo-viridia, fuscescentia.

15. L. TORTIFOLIUM (*Mitt.*). Dioicum; rami breviusculi, ramosi. Folia compressa, lateralia divergentia, acumine brevi subtorto, margine inferiore infra medium anguste inflexo, intermedia patentia oblonga acuta acuminatave, media late ovalia breviora, omnia nervis ultra medium evanidis, marginibus flexis apice serrulatis, cellulis sub apice subhexagono-rotundis, inferioribus oblongis, ad margines seriebus circiter sex elongatarum angustiorum in limbum conflatis; perichætialia ad apices foliorum ramorum producta, lanceolata, apicibus serrulatis. Theca in pedunculo elongato, ovalis inclinata, operculo subulato; calyptra ramentis paucis brevibus.

Hab. Andes Bogotenses, prope Bucaramanga ad lapides rivuli (5000 ped.), *Weir*, n. 147. Andes Quitenses, fl. Bombonasa (1200 ped.), *Spruce*, n. 783.

Rami unciales. Folia viridia, sicca torta, flexuosa. Pedunculus ½-uncialis. *L. flexifolio* statura habituque simile, sed foliorum areolis latioribus et pedunculo longiore diversum.

16. L. CURVIFOLIUM (*Mitt.*). Rami graciles. Folia laxa, compressa, lateralia patenti-divergentia, margine inferiore a media ad basin late inflexa, intermedia patentia breviora oblongo-ovalia, media appressa orbiculari-ovalia, acumine brevi, omnia nervis medio evanidis, marginibus flexuosis superne denticulatis, cellulis inferioribus oblongis, superioribus rotundo-ovalibus utriculo contracto repletis, ad margines angustioribus limbum indistinctum formantibus; perichætialia parva, e basi ovata loriformi-acuminata, serrulata. Theca in pedunculo foliis rameis duplo longiore dense spiculoso papilloso, ovalis, erecta, operculo subulato; calyptra ramentis sparsis divergentibus.

Hab. Andes Quitenses, fl. Bombonasa (1200–2000 ped.), *Spruce*, n. 724.

Rami 1½-unciales. Folia viridia, sicca patentia, torta. Pedunculus 3-linearis.

17. L. ARCUATUM (*Mitt.*). Monoicum; rami simplices ramosive. Folia compressa, lateralia patenti-divergentia, suberecta arcuatave apice serrulata, nervis medio evanidis, margine inferiore a medio complicato, media appressa minora late ovata intermediaque erecto-patentia, oblonga, in

acumen semitortum subito angustata, omnia marginibus apice denticulis brevibus serratis, cellulis laxiusculis oblongis prosenchymaticis, inferioribus longioribus utriculo contracto repletis; perichætialia parva, late ovalia, acuminata, subintegerrima. Theca in pedunculo brevi scabro foliis breviore, ovalis, erecta, operculo subulato; calyptra basi multifida, laciniis incurvis, ramentis paucis decurvis.

Hab. Andes Quitenses, ad fl. Bombonasa (1500 ped.), *Spruce*, n. 733.

Caulis longe repens; rami dense inserti pinnatim ramosi, longiores 2-unciales, ut plurimum simplices. Folia sicca contracta, arcuata, torta.

18. L. INFLEXUM (*Mitt.*). Dioicum?; rami elongati, parum ramosi. Folia subcompressa, lateralia patentia, margine latere inferiore inflexo superne flexuoso, intermedia mediaque inflexa breviora latissime ovata, acumine semitorto, omnia nervis sub apice evanidis, marginibus flexuosis superne infra acuminis basin denticulis brevibus serrulatis, cellulis ovali-hexagonis utriculo contracto repletis basi flavidis, ad margines angustioribus in seriebus sex limbum tenerum formantibus; perichætialia parva, a basi orbiculari subito subulata, integerrima. Theca in pedunculo brevi scaberrimo ultra apices folii ramorum parum exserta, ovata, erecta, operculo magno hemisphærico breviter acuminato, peristomii dentibus latiusculis, processibus æquilongis punctulatis, in membrana brevi exserta impositis; calyptra nuda.

Hab. Andes Quitenses, in sylva Canelos (2000 ped.), *Spruce*, n. 726; ibidem forma gracilior, *Spruce*, n. 727; in monte Abitagua (4000 ped.), forma robustior, *Spruce*, n. 728.

Rami 3–4 uncias longi, simplices parceve ramosi, rubri. Folia luteo-viridia.

19. L. FLEXIFOLIUM (*C. Müll. Syn.* ii. 206). Dioicum?; rami breviusculi, simplices ramosive. Folia compressa, lateralia patentia oblonga, acumine brevi semitorto, margine inferiore complicato inflexo, intermedia erecto-patentia breviora, media appressa late ovalia, acumine brevi, omnia nervis medio evanidis, marginibus flexuosis superne serrulatis, cellulis ellipticis prosenchymaticis utriculo contracto repletis; perichætialia parva, ovata, acuminata, serrulata. Theca in pedunculo foliis lateralibus haud excedente, ovalis, erecta, ore coarctata, operculo subulato; calyptra ramentis pluribus divaricatis obtecta.

Hab. Ins. Trinidad, in monte Tochuche, *Crüger* ex *C. Müller, Heward, Black*; Guiana, *Appun*. Fl. Amazon, Caripi prope Para, *Spruce*, n. 129; ad fl. Aripecuru, *Spruce*, n. 722; Parana-miri dos Ramos, *Spruce*, n. 719. Fl. Negro, S. Gabriel, *Spruce*, n. 720; in monte Cocui, *Spruce*, n. 730; fl. Pacimoni, in rivulo Uaiauaca, ad ramulos, *Spruce*, n. 731. Andes Quitenses, fl. Pastasa, *Spruce*, n. 732; fl. Bombonasa (1200 ped.), *Spruce*, n. 721. Andes Peruvianæ, Guayrapurina, in ramis (3000 ped.), *Spruce*, n. 718.

Rami 1–1½ unciam alti. Folia viridia, fulvescentia, sicca lateralia patentia torta.

20. L. BREVIPES (*Mitt.*). Rami subsimplices. Folia compressa, lateralia divergentia, margine inferiore inflexo, intermedia mediaque oblonga, acuminata, omnia nervis infra medium evanidis, marginibus superne serrulatis, cellulis ellipticis vestigio utriculi repletis; perichætialia ovata acuminata. Theca in pedunculo brevissimo scabro flexuoso, ovalis, erecta, operculo subulato; calyptra ramentis paucissimis subnuda, thecam ad medium tegens.

Hab. Andes Peruvianæ, Tavalosos (3000 ped.), *Spruce.*

Rami 1½-unciales, cum foliis 2 lineas lati. Folia pallide stramineo-viridia. Pedunculus vix linearis, ultra apices foliorum ramorum haud exsertus. Peristomii dentes externi lamina externa laciniis interni latitudine subæquali.

21. L. SUBFUSCUM (*Mitt.*). Rami longiores subpinnatim ramosi. Folia compressa, lateralia divergentia, margine inferiore inferne inflexo, intermedia mediaque oblonga, acuta, omnia nervis brevibus infra medium evanidis, marginibus apice breviter serrulatis, cellulis ellipticis parietibus crassis; perichætialia parva acuminata. Theca in pedunculo brevi scabro, ovalis, erecta.

Hab. Fl. Negro, S. Gabriel ad arborum radices, *Spruce,* n. 737. Brasilia in sinu Paranagua prope Morretes in sylvis ad truncos arborum juniorum (100 ped.), *Weir,* n. 77.

Rami longiores 2-unciales, breviores et fructiferi 9-lineares, cum foliis 1½ lineam lati. Folia pallide viridia vel omnia nigro-fusca subnitida. Pedunculus lineam longus. Theca minuta.

22. L. NUDUM (*Mitt.*). Rami breviusculi, simplices. Folia compressa, lateralia divergentia, margine inferiore inflexo, intermedia oblonga acuminata, media ovata acuminata, omnia nervis medio evanidis, marginibus superne serrulatis, cellulis oblongis; perichætialia parva, acuminata. Theca in pedunculo brevi setuloso, oblonga, erecta; calyptra vix infra basin operculi descendens.

Hab. Andes Quitenses, in monte Chimborazo, *Spruce.*

Rami unciales, graciles, cum foliis 2 lineas lati. Folia lutea, fuscescentia. Pedunculus lineam longus.

23. L. INTERMEDIUM (*C. Müll. Syn.* ii. 195). Inter *L. subenerve* et *L. Mülleri* intermedium. Folia symmetrica, complicate contorta, obsolete vel valde denticulata, margine erecto vel basi paulisper revoluto, nervis tenuissimis brevibus, cellulis elongatis angustis pellucidis; perichætialia interna minora, angustius acuminata. Pedunculus brevis, ciliato-papillosus. Theca subrecta, anguste cylindraceo-oblonga, operculo conico-subulato recto; peristomium *L. Mülleri.*—*C. Müll. l. c.*

Hab. Ins. Trinidad, in monte Tochuche, *Crüger.*

"A *L. subenervi* differt foliis symmetricis complicate contortis, pellucide reticulatis, margine interdum reflexo et calyptra glaberrima; a *L.*

Mülleri refugit foliis angustis complicate contortis obsolete denticulatis longius acuminatis brevinervibus et calyptra glaberrima."

24. L. CONVALLIUM (*Brid.* ii. 354). Angustissime complanatum, gracile, tenue, sordide viride. Folia caulina symmetrica, integerrima, raro parcissime obsolete denticulata, paulisper flexuosa, profunde concava, angustissime longissime dense areolata, chlorophyllosa, dein pallida, nervis brevibus tenuissimis subobsoletis, margine erecto.

Hookeria (Lepidopilum) convallium, *C. Müll. Syn.* ii. 200.

Hab. In convallibus Andium, *Hamboldt et Bonpland.*

"A *L. intermedio* haud dissimile et affinibus notis laudatis facillime distinguitur."—*C. Müll. l. c.*

25. L. ANTILLARUM (*Mitt.*). Synoicum; rami subsimplices. Folia compressa, lateralia patenti-divergentia, margine inferiore inflexo, intermedia ovata subulato-acuminata, media ovato-lanceolata acuminata, omnia nervis infra medium evanidis, marginibus superne serrulatis, cellulis elongate ellipticis utriculo contracto repletis; perichætialia parva. Theca in pedunculo brevissimo scaberrimo, oblonga, inclinata suberectave, operculo conico acuminato; calyptra ad thecæ medium vix descendens, ramentis paucissimis subnuda.

Hab. Ins. S. Vincentis, *Guilding, Parker*; Barbadoes, *Parker* (*Herb. Hooker*).

Rami 1–2-unciales, graciles, cum foliis 1½ lineam lati. Folia luteoviridia, subnitida, fuscescentia. Pedunculus lineam longus.

26. L. CALVUM (*Mitt.*). Rami graciles. Folia compressa, lateralia divergentia, parum curvata, margine inferiore incurvo inflexove, intermedia patentia, oblonga, acuminata, media ovato-acuminata, omnia nervis infra medium evanidis, marginibus superne serrulatis, cellulis ellipticis; perichætialia parva, ovata, acuminata, serrulata. Theca in pedunculo brevi scaberrimo, oblonga, erecta; calyptra nuda subscabra.

Hab. Andes Peruvianæ, in monte Guayrapurina (3000 ped.), *Spruce*, n. 742.

Rami 1–1½-unciales, cum foliis 1½ lineam lati. Folia straminea, subnitida. Pedunculus lineam longus, rectus flexuosusve.

27. L. GRACILE (*Mitt.*). Dioicum?; caulis gracillimus, subpinnatus. Folia compressa, lateralia patentia, intermedia oblonga acuminata erectiora, media ovalia acuminata, omnia nervis infra medium evanidis, marginibus superne serrulatis, cellulis oblongo-ellipticis parietibus angustis; perichætialia parva, ovata, acuminata. Theca in pedunculo brevi papillis patentibus scabro recto vel curvato, oblonga, erecta.

Hab. Andes Quitenses, ad pedem occidentalem montis Abitagua (4000 ped.), *Spruce*, n. 778.

Rami 1-3-unciales, simplices vel ramulis sparsis subpinnati, cum foliis lineam lati. Folia viridia. Pedunculus 1½-linearis, papillis dentiformibus porrectis.

28. L. SPLENDIDISSIMUM (*Mont. in Ann. Sc. Nat.* ser. 2. iv. 96). Dioicum?; rami simplices. Folia arcte complanata, lateralia divergentia, vix acuminata, intermedia erecto-patentia mediaque minora conformia, omnia nervis brevibus, marginibus apice minute serrulatis subintegerrimis, cellulis parvis ellipticis parietibus angustis; perichætialia parva, acuminata. "Theca in pedunculo parum exserto apice paulisper curvato, majuscule elliptica, operculo conico-acuminato recto; peristomii dentes exteriores angusti, longissimi, illis *Hookeriæ lucentis* similes, interiores in membrana breviuscula longissimi angustissimi hiantes."—*C. Müll. Syn.* ii. 203.

Hookeria speciosissima, *Schwægr.* t. 320.

Hab. Ins. Juan Fernandez, *Bertero*; Chili, *C. Gay, Cuming.*

Rami 1–1½-unciales, cum foliis 4 lineas lati. Folia splendentia, exsiccatione immutata. Theca ex icone (*Schwægr.* t. 320) operculo ultra folia caulina haud exserto.

29. L. RADICALE (*Mitt.*). Dioicum?; rami elongati, parce ramosi. Folia compressa, lateralia divergentia, margine inferiore inflexo, intermedia oblongo-acuminata, media minora ovali-acuminata, omnia nervis infra medium evanidis, marginibus superne serrulatis, cellulis ellipticis utriculo contracto repletis; perichætialia parva, e basi latiore subulata. Theca in pedunculo brevi dense setuloso, oblonga, inclinata, peristomii dentibus elongatis, processibus æquilongis dorso convexis obscuriusculis; calyptra sparse ramentosa, ad thecæ medium descendens.

Hab. Andes Quitenses, Antombos ad saxa cataractæ (5000 ped.), *Spruce*, n. 765; ad pedem montis Tunguragua (7000 ped.), *Spruce*, n. 767; fl. Bombonasa ad *Iriarteæ ventricosæ* radices (1300 ped.), *Spruce*, n. 768, 769, 770; Tunguragua, ad arborum radices, *Spruce*, n. 771.

Rami 1½–3-unciales, cum foliis 2 lineas lati. Folia viridia, subnitida. Pedunculus 3-linearis.

30. L. CUSPIDANS (*Mitt.*). Dioicum?; rami graciles, parce ramosi. Folia compressa, in ramorum apicibus angustiora, cuspidate appressa, ovato-lanceolata, margine inferiore inflexo, intermedia patentia, oblongo-ovata, media ovata acuminata, omnia nervis infra medium evanidis, marginibus superne serrulatis, cellulis angustis elongatis; perichætialia parva, subulato-acuminata. Theca in pedunculo dense setuloso, ovalis, erecta; calyptra ramentis divergentibus pilosa.

Hab. Andes Quitenses, in sylva Canelos (3000 ped.), *Spruce*, n. 757.

Rami unciales, simplices, cum foliis 1½ lineam lati. Folia luteo-viridia, subnitentia, interdum fusca. Pedunculus 2-linearis.

31. L. ANCEPS (*Mitt.*). Rami graciles, parce ramosi. Folia densiuscula, compressa, lateralia divergentia, intermedia patentia ovali-lanceolata

acuminata, media appressa ovali-acuminata, omnia nervis infra medium evanidis, marginibus versus apicem serrulatis, cellulis superioribus omnibus ellipticis, inferioribus elongatis; perichætialia ovato-acuminata. Theca in pedunculo brevi setulis brevibus aspero, oblonga, horizontalis; calyptra brevis, infra os thecæ paulisper descendens, parce ramentosa.

Hab. Andes Quitenses, in sylva Canelos et in monte Chimborazo (3000 ped.), ad ramulos, *Spruce.*

Rami 1½-unciales, simplices divisive, cum foliis 2 lineas lati. Folia pungentia, pallide viridia, obscura. Pedunculus 2-linearis, siccitate curvatus.

L. divaricato simillimum, sed cellulis foliorum angustioribus et peristomii externi structura diversum.

32. L. DIVARICATUM (*Dozy et Molk. Prodr. Bryol. Surin.* t. 13). Dioicum; rami graciles, parce ramosi. Folia compressa, lateralia divergentia, margine inferiore anguste inflexo, intermedia patentia ovali-lanceolata mediaque ovalia acuminata, omnia nervis infra medium evanidis, marginibus superne serrulatis, cellulis laxis oblongo-ellipticis, parietibus crassiusculis ad margines superiores obscurioribus; perichætialia lanceolata, acuminata, apice subserrulata. Theca in pedunculo brevi scabro, ovalis, horizontalis, operculo subulato, peristomii externi dentium cellulis externis per latitudinem dentium expansis.

Hab. Surinam, ex *Herb. Dozy et Molkenboer.*

Rami 1–2-unciales, simplices ramosive, cum foliis 2 lineas lati. Folia laxe disposita, tenera viridia.

Species structura dentium peristomii externi ab affinibus diversa.

33. L. ACUTUM (*Mitt.*). Dioicum?; rami graciles, simplices. Folia compressa, lateralia divergentia, margine inferiore inflexo, intermedia ovalia, media ovata acuminata, omnia nervis infra medium evanidis, marginibus superne serrulatis flexuosis, cellulis latiusculis oblongo-ellipticis utriculi contracti vestigio repletis pellucidis; perichætialia apicibus serrulatis. Theca in pedunculo brevi spiculoso, oblonga, inclinata; calyptra thecam ad medium tegens, ramentosa.

Hab. Andes Quitenses, in sylva Canelos (3000 ped.), *Spruce.*

Rami graciles, rubri, cum foliis lineam lati. Folia pallide viridia, vix nitida, sicca contracta. Pedunculus 2-linearis.

A *L. divaricato* foliis concavioribus, cellulis latioribus diversum.

34. L. MÜLLERI (*Hampe in Linnæa*, xx. 84). Rami ramosi. Folia compressa, lateralia divergentia, sub apice excavata, margine inferiore inflexo, intermedia oblongo-lanceolata acuminata, media ovalia acuminata, omnia nervis infra medium evanidis, marginibus superne serrulatis, cellulis angustis; perichætialia subulata, apicibus serrulatis. Theca in pedunculo brevi setuloso, ovali-cylindracea, inclinata, operculo subulato; calyptra ramentis inspersa.

Hab. Venezuela, *Moritz.* Andes Bogotenses, *Lindig*; in sylvis prope

Bucaramanga (7000 ped.), ad arbores et sæpe in foliis arborum putridis, *Weir*, n. 145. Andes Quitenses, Tunguragua ad ramulos (7000 ped.), *Spruce*, n. 759, (a *Jamesonio* lectum) *Spruce*, n. 760; Archedonia, *Jameson*; Pallatanga in Cordillera occidentali (6000 ped.), *Spruce*, n. 758; ad ejus pedem secus rivulum Blanco (5000 ped.), *Spruce*, n. 761; loco Antombos (4500 ped.), *Spruce*, n. 762; Chimborazo (4000 ped.), *Spruce*, n. 763.

Rami 1–2-unciales, cum foliis latitudine 2½–3-lineares. Folia viridia, subnitida, fulvescentia. Pedunculus 4-linearis.

35. L. SUBULATUM (*Mitt.*). Rami simplices pinnatimve ramosi. Folia lateralia divergentia, margine inferiore usque ad folii longitudinis ¾ inflexa, intermedia ovato-lanceolata mediaque oblongo-lanceolata acuminata, omnia nervis infra medium evanidis, marginibus superne serrulatis, cellulis ellipticis utriculo contracto repletis; perichætialia ovata, acuminata. Theca in pedunculo brevi setuloso, oblonga, inclinata, operculo subulato, peristomii dentibus elongatis, processibus æquilongis; calyptra ramentis decurvis.

Hab. Brasilia, Minas Geraës, prope Formosa, *Gardner*, n. 80; in sylvis humidis inter S. Paulo et Jundiahy (2000 ped.), ad basin truncorum arborum juniorum, *Weir*, n. 13; Parana, Fazenda de Tucanduva (2000 ped.), in sylvis humidis ad truncos, *Weir*, n. 73.

Rami 1–1½-unciales, cum foliis 2 lineas lati. Folia viridia, subnitida. Pedunculus 2-linearis. Peristomii dentes externi cellulis laminæ internæ inæqualibus erosi.

36. L. LATIFOLIUM (*C. Müll. Syn.* ii. 199, Hookeria). Rami breviusculi, simplices. Folia compressa, lateralia patenti-recurva, apice semitorta, margine inferiore a medio ad basin usque complicata, intermedia patentia oblongo-ovalia acuminata, media appressa late ovalia acuminata, omnia nervis brevibus usque ad folii longitudinis ¼ productis, marginibus apicem versus serrulatis, cellulis angustis elongatis, parietibus crassiusculis.

Hab. Ins. Trinidad, in monte Tochuche, *Crüger* (ex *C. Müll.*).

37. L. ARMATUM (*Mitt.*). Rami ramosi, laxe cæspitosi. Folia compressa, lateralia divergentia, latere inferiore inflexa, intermedia mediaque ovato-lanceolata acuminata, omnia pluries transversim undulata, nervis medio evanidis, margine superne flexuosa apice serrulata, cellulis oblongo-ellipticis teneris laxis pellucidis; perichætialia orbiculari-ovata, acuminata. Pedunculus elongatus, ubique dense setulosus. Theca ovalis, erecta, peristomii elongati dentibus lamina externa solida angusta, interna latiore, interni processibus æquilongis longioribusve; calyptra ramentis brevibus paucis, basi lobis inflexis.

Hab. Andes Quitenses, in sylva Canelos (2500 ped.), *Spruce*, n. 612.

Rami ½–¾ unciæ longi, cum foliis 1½–2 lineas lati. Folia læte viridia subnitentia, seniora pallide fusca. Pedunculus 7–8-linearis, gracilis.

38. L. GREVILLEANUM (*Tayl. in Hook. Lond. Journ.* v. 60, Hookeria). Rami pinnatim ramosi. Folia dense inserta, lateralia divergentia, margine inferiore inflexo, intermedia mediaque ovato-ligulata obtusiuscula, omnia pluries transversim undulata, nervis infra medium evanidis, marginibus serrulatis, cellulis angustis ellipticis; perichætialia ovata, serrulata. Theca in pedunculo setuloso, hispidulo, elliptica, inclinata suberectave, collo tuberculoso, operculo subulato, peristomii dentibus elongatis, processibus æquilongis; calyptra infra thecæ medium descendens, ramentis inspersa.

Hookeria affinis, *C. Müll. Syn.* ii. 199.

Hab. Ins. Trinidad, *Purdie*; Surinam ex *Herb. Dozy et Molkenboer.* Fl. Amazon, fl. Pastasa, *Spruce*, n. 750; fl. Negro, S. Gabriel, ad saxa lignaque in sylvis humidis umbrosis, *Spruce*, n. 748. Andes Quitenses, fl. Bombonasa (1200 ped.), *Spruce*, n. 749; in sylva Canelos (3000 ped.), *Spruce*, n. 751; Quito, *Jameson*. Andes Peruvianæ, Tarapoto ad ramulos loco Pongo del Aquashiyacu (2000 ped.), *Spruce*, n. 745; Tarapoto (1500 ped.) planta mascula, *Spruce*, n. 747.

Caulis repens, ramis nonnullis simplicibus nonnullis longioribus pinnatis 1½-uncialibus, cum foliis 2 lineas latis. Folia viridia, nitida, plus minus pulchre undulata. Pedunculus 6–8 lineas longus.

39. L. FRONDOSUM (*Mitt.*). Rami pinnatim ramosi. Folia lateralia divergentia, margine inferiore inflexo, intermedia mediaque oblongo-ovata acuta, omnia nervis medio evanidis, marginibus superne serrulatis apice flexuosis, cellulis ovali-ellipticis pellucidis; perichætialia acuminata. Theca in pedunculo longiusculo setuloso inclinata; calyptra ramentis brevibus inspersa.

Hab. Nova Granata, *Purdie.*

Rami 1½-unciales, cum foliis 2 lineas lati. Folia viridia, nitida. Pedunculus 6–7-linearis.

Ex toto habitu adspectuque *L. Grevilleano* simillimum, foliis autem haud undulatis neque ligulato-obtusatis differt.

40. L. PUMILUM (*Mitt.*). Rami depresse cæspitosi, pinnatim ramosi. Folia compressa, lateralia patenti-divergentia, margine inferiore inflexo, apice rotundata obtuse acuta, intermedia oblonga, media ovata obtusa, omnia nervis infra medium evanidis, marginibus apice serrulatis, cellulis ellipticis pellucidis; perichætialia acuminata. Theca in pedunculo brevi setuloso inclinata, elliptica, operculo subulato; calyptra ad thecæ medium descendens, ramentis brevissimis parce inspersis.

Hab. Andes Quitenses, ex *Jameson*, *Spruce*, n. 779. Andes Peruvianæ, fl. Huallaga (1300 ped.), *Spruce*, n. 780.

Rami 1–1½-unciales, latitudine cum foliis 1½-lineares. Folia viridia, nitida. Pedunculus 3-linearis.

41. L. PECTINATUM (*Mitt.*). Dioicum?; rami ramosi. Folia com-

pressa, lateralia divaricata, margine inferiore inflexa, intermedia ovali-oblonga acuminata, media ovata acuminata, omnia nervis vix ultra medium productis, marginibus subrecurvis apicem versus serrulatis, cellulis brevibus rhombeo-ovalibus, utriculo dissoluto pellucidis; perichætialia longiuscula, ovato-subulata, apicibus serrulatis. Theca in pedunculo scabro, oblonga, erecta inclinatave, operculo subulato; calyptra ubique ramentis rufescentibus divergentibus obtecta, basi nonnullis pendulis.

Hab. Andes Quitenses, Puma-cocha ad ramulos (4000 ped.), *Spruce*, n. 738.

Rami 1–1½-unciales, ramis fastigiatis, cum foliis 3 lineas latis. Folia stramineo-viridia, subnitida, sicca contracta. Pedunculus 4-linearis.

L. Mülleri maxime simile, sed oculo armato cellulis brevibus et calyptra magis ramentosa distinguitur.

42. L. AMPLIRETE (*Sulliv. in Proceed. Amer. Acad.* 1861). Rami elongati. Folia compressa, lateralia patentia, latere inferiore inflexo, intermedia mediaque ovali-oblonga, omnia concava, apicibus acutis, nervis brevissimis, marginibus apice serrulatis, cellulis superioribus oblongo-ellipticis, inferioribus angustioribus.

Hab. Ins. Cuba, *Wright*, n. 72 (*Cylindrothecium amplirete*).

Rami 1–1½-unciales, cum foliis 2-lineas lati. Folia pallide viridia, nitentia.

L. Grevilleano simillimum, sed foliis lævibus concavioribus multo minus serrulatis diversum.

43. L. DIAPHANUM (*Sw. Prod. Fl. Ind. Occ.* 140; *Hedw. Sp. Musc.* t. 61, Hypnum). Rami graciles, elongati. Folia compressa, lateralia divergentia subarcuata, intermedia oblonga, media late ovata acuminata, omnia nervis angustis infra medium evanidis, marginibus subintegerrimis, cellulis laxis diaphanis oblongo-ellipticis, parietibus angustis.

Hab. Ins. Jamaica, in depressis montium, *Swartz*.

Rami unciales, cum foliis 2 lineas lati. Folia tenera flaccida, pallidissime viridi-fusca.

44. L. TENUIFOLIUM (*Mitt.*). Rami ramosi. Folia compressa, lateralia divergentia, intermedia orbicularia acuminata, media latissime ovata acuminata, omnia nervis angustis medio evanidis, marginibus apice denticulatis, cellulis laxis oblongo-ellipticis, parietibus angustis, ad margines angustioribus, limbum indistinctum formantibus.

Hab. Andes Quitenses, in monte Chimborazo.

Rami subunciales, cum foliis 3 lineas lati. Folia pallida pellucida, fulvescentia.

45. L. INTEGERRIMUM (*Mitt.*). Rami ramosi. Folia lateralia divergentia, margine inferiore inflexo, intermedia mediaque ovata brevius acuminata, omnia nervis medio evanidis, marginibus a basi ad medium anguste reflexis integerrimis subintegerrimisve, cellulis ellipticis utriculi vestigio sub-

obscuris; perichætialia ovata. Theca in pedunculo elongato spiculis hispidulo, ovali-cylindracea, suberecta, operculo subulato; calyptra ramentis obtecta.

Hab. Andes Quitenses, in monte Chimborazo in sylvis Cinchonæ (3000–5000 ped.), *Spruce*, n. 752; in monte Tunguragua (7000 ped.), *Spruce*, n. 753; ad rivulum Lligua (7000 ped.), *Spruce*, n. 754; in monte Tunguragua, secus rivulum Vascun (Baccun) (7000 ped.), *Spruce*, n. 755.

46. L. CAVIUSCULUM (*Mitt.*). Rami breviusculi. Folia lateralia divergentia, margine inferiore inflexo, sub apice caviuscula, intermedia mediaque oblonga breviter acuminata, omnia nervis infra medium evanidis, marginibus apice serrulatis, cellulis laxis ellipticis pellucidis; perichætialia subulata, elongata. Theca in pedunculo elongato setuloso, elliptica, erecta, operculo subulato, peristomii dentibus processibusque æquilongis obscuris; calyptra ad thecæ medium descendens, ramentis paucis inspersa.

Hab. Andes Quitenses, in sylva Canelos, *Spruce*.

Rami subunciales, cum foliis 2 lineas lati. Folia subnitida e stramineo fulva. Pedunculus 8 lineas longus.

47. L. OBLONGIFOLIUM (*Mitt.*). Dioicum?; rami elongati. Folia lateralia margine inferiore inflexo, intermedia oblonga acuta, media late ovalia acuta, omnia nervis brevibus infra medium evanidis, marginibus apice serrulatis, cellulis ellipticis plerumque utriculo contracto repletis; perichætialia parva, subulato-acuminata, serrulata. Theca in pedunculo brevi scabro, ovalis, inclinata.

Hab. Brasilia, in prov. Minas Geraës, ad arbores, *Gardner*, n. 79.

Rami 2–4-unciales, simplices, cum foliis 2 lineas lati. Folia pallide luteo-viridia, subnitida.

48. L. SUBENERVE (*Brid.* ii. 268). Rami breviusculi, parce ramosi. Folia compressa, lateralia patenti-divergentia, margine inferiore inflexo, intermedia oblongo-lanceolata acuminata, media ovali-acuminata, omnia nervis angustis folii medium non excedentibus, marginibus superne serrulatis, cellulis angustissimis; perichætialia e basi lata longe subulata, subintegerrima, rameis longiora. Theca in pedunculo breviusculo dense setuloso, oblonga, inclinata, operculo subulato, peristomii dentibus processibusque æquilongis angustis dense punctulatis; calyptra ramentis curvatis inspersa.

Neckera scabriseta, *Schwægr.* t. 82.

Hab. Guiana, *Richard, Appun*; Venezuela, *Funck et Schlim*, n. 373; Tovar, *Moritz*. Andes Quitenses, in monte Pingullu prope Tavalosos ad truncos (3000 ped.), *Spruce*, n. 781; in monte Campana, in arborum ramulis (8500 ped.), *Spruce*, n. 782.

Rami unciales, cum foliis 2 lineas lati. Folia nitida, sicca vix mutata.

49. L. DEPPEANUM (*C. Müll. Syn.* ii. 196). Monoicum, *L. intermedio* simillimum, sed folia acumine dentato, maxime plicata, stricta, haud

contorta, angustius reticulata; folia perichætialia, pedunculus et theca *L. intermedii*; calyptra pilosiuscula.—*C. Müll. l. c.*

S. subenerve, *Hornsch. in Musc. Mexic. Depp.*

Hab. Mexico, *Deppe.*

50. L. ANGUSTIFRONS (*Hampe in Linnæa*, xxxii. 153). Decumbens, 1–1½-unciale, pallide viride nitens; caulis compressus, angustus, simplex vel diviso-ramosus. Folia disticha, uno latere inflexo concavo, apice parum reflexo, denticulato-serrata, nervis binis brevibus remotis tenerrimis inæqualibus interdum obsoletis, cellulis basilaribus aureis, intermediis laxioribus, cæteris angustioribus elongatis echlorophyllosis, interstitiis flavescentibus, limpido-hyalina; perichætialia pauca, minora, ovata, enervia, tenerrima. Seta brevis, adscendenti-erecta vel postice varie flexuosa. Theca pyriformi-cylindrica, deoperculata sub ore constricta, operculo conico-subulato recto, peristomio magno, dentibus externis subulatis dorso fuscatis, interni cruribus carinatis paulo latioribus æquilongis; calyptra longa, thecam fere totam involvens, straminea, basi parce inciso-lobata, medio paleis paucis ornata.—*Hampe in Ann. Sc. Nat.* ser. 5. iv. 366.

Hab. Andes Bogotenses, Bogota, Cipacon (2500 metr.), *Lindig.*

A *L. subenervi* Brid. differt foliis latioribus, limpido-hyalinis, perichætialibus ovatis nec longissime acuminatis, calyptraque basi laciniata nec multifida.—*Hampe, l. c.*

51. L. LONGIFOLIUM (*Hampe in Ann. Sc. Nat.* ser. 5. iv. 365). Caulis basi attenuatus, superne diviso-ramosus; ramis subfastigiatis, complanatis, undique dense foliatis. Folia accumbentia, erecta, parum flexuosa, e basi parum asymmetrica, apice parce denticulata, nervis gemellis plus minusve elongatis, cellulis basilaribus crassioribus aureis, cæteris elongato-pentagonis conformibus, limpido-hyalinis. Seta brevis, adscendens, scaberrima, ramos superans, gracilis. Theca elliptica, cylindrica, angusta, deoperculata medio attenuata, ore patulo, operculo conico-subulato recto; peristomium magnum, dentibus exterioribus lanceolato-subulatis erectis in medio linea violacea notatis lævibus, interiorum cruribus carinatis æquilongis integris; calyptra longa, flavescens, basi laciniata, apice fuscata, parum scabra.—*Hampe, l. c.*

Hab. Andes Bogotenses, Bogota, Pacho et Tequendama, Escaleros (2200–2500 metr.), *Lindig.*

Ex habitu *Daltoniæ*, sed peristomium *Lepidopili* Brid.—*Hampe, l. c.*

52. L. CUBENSE (*Sulliv. in Proceed. Amer. Acad.* 1861). Dioicum?; rami breviusculi. Folia compressa, nitida, lateralia patentia, margine latere inferiore inflexo, intermedia erecto-patentia mediaque minora ovalia subulato-acuminata, nervis medio evanidis, marginibus superne serrulatis hic illic subrecurvis, cellulis elongato-ellipticis utriculo contracto repletis.

Hab. Ins. Cuba, *Wright*, n. 85.

Rami ½-unciales, cum foliis 1½ lineam lati. Folia e viridi straminea, fulvescentia.

53. L. PHYLLORHIZUM (*Mitt.*). Rami abbreviati. Folia compressa, lateralia divergentia, latere inferiore inflexo, intermedia breviora, media ovalia, omnia nervis angustis medio evanidis, marginibus apice serrulatis hic illic rhizophoris, cellulis late ovalibus utriculi dissoluti vestigiis repletis; perichætialia ovata, acuminata. Theca in pedunculo brevi scabro inclinata?, ovalis, operculo subulato, peristomio basi in membrana brevi exserta, dentibus processibusque æquilongis punctulatis; calyptra parce ramentosa, ad thecæ medium descendens.

Hab. Ins. Cuba, *Wright*, n. 85, ex parte.

Rami ½-unciales, cum foliis 2 lineas lati. Folia pallide lutea obscuriuscula. Pedunculus 3-linearis.

54. L. CHLORONEURON (*Tayl. in Hook. Lond. Journ.* v. 61, Hookeria). Rami graciles, elongati, ramulis paucis divergentibus subpinnatim ramosi. Folia divergentia, recta subarcuatave, latere inferiore inflexo, intermedia oblongo-lanceolata mediaque ovali-lanceolata acuminata, omnia nervis medio evanidis, marginibus superne serrulatis, cellulis ovalibus utriculo contracto obscuris, ad margines seriebus 5–6 angustioribus limbum tenuem formantibus; perichætialia ovato-subulata, subserrulata. Theca in pedunculo brevi, oblonga, erecta, operculo conico subulato, peristomio longo dentibus angustis, processibus æquilongis.

Hab. Andes Quitenses, *Jameson*, in monte Chimborazo, in sylvis Cinchonæ (3000–5000 ped.), *Spruce*, n. 739.

Rami 2–4-unciales, cum foliis 1½ lineam lati. Folia viridia, fulvescentia obscura, inter se remotiuscula, angusta, sicca patentia contracta. Pedunculus 3–4-linearis.

55. L. BREVIFOLIUM (*Mitt.*). Rami elongati, pinnatim ramosi; ramulis divergentibus. Folia compressa, imbricata, lateralia patenti-divergentia, latere inferiore inflexo, intermedia mediaque ovalia, omnia breviter acuminata, nervis brevibus ultra medium haud productis, marginibus superne minute serrulatis, cellulis teneris elongato-ellipticis pellucidis; perichætialia brevia, latissime ovata, acuta. Theca in pedunculo setuloso, oblonga, inclinata, operculo subulato, peristomii interni processibus dorso convexis; calyptra ad thecæ medium descendens, superne ramentis divergentibus inspersa.

Hab. Andes Quitenses, in sylva Canelos (3000 ped.), *Spruce*, n. 784; secus rivulum ad pedem occidentalem montis Abitagua, in ramulis (3000 ped.), *Spruce*, n. 785.

Rami 2–3-unciales, ramulis pluribus inæqualibus, cum foliis lineam lati. Folia e viridi fulvo-straminea, nitida. Pedunculus ½-uncialis.

56. L. SEMILÆVE (*Mitt.*). Dioicum, rami breviusculi. Folia compressa, lateralia patenti-divergentia, latere inferiore inflexo, intermedia ligulato-oblonga, media ovato-oblonga, omnia apicibus acutis subtortis, nervis infra medium evanidis, marginibus superne serrulatis, cellulis oblongo-ellipticis utriculo vestigio repletis; perichætialia lanceolata, apici-

bus serrulatis. Theca in pedunculo elongato inferne glabro apice scabro, elliptica, suberecta inclinatave, operculo subulato, peristomii dentibus elongatis processibusque æquilongis papillosis obscuris; calyptra ad thecæ medium descendens, ramentis parvis brevibus inspersa.

Hab. America centralis, Chagres, *Sinclair*. Andes Quitenses, *Jameson*.

Rami unciales, cum foliis 2 lineas lati. Folia stramineo-viridia, fulvescentia, nitida. Pedunculus 7-linearis.

57. L. ROBUSTUM (*Mitt.*). Rami ramosi. Folia subcompressa, dense inserta, lateralia patentia, nervis infra medium evanidis, marginibus subrecurvis integerrimis, cellulis parvis ellipticis utriculo dissoluto pellucidis; perichætialia ovato-acuminata. Theca in pedunculo hispidulo, oblonga, erecta, operculo subulato; peristomii dentibus elongatis processibusque æquilongis; calyptra ramentosa.

Hab. Andes Bogotenses, in sylvis supra Pacho (7000 ped.), *Weir*, n. 134. Andes Quitenses, Tunguragua, *Spruce*.

Rami cæspitosi, 1–2-unciales, cum foliis 2 lineas lati. Folia stramineo-viridia, subnitida, mollia.

66. PILOTRICHUM, Beauv. Prodr. 37.

Musci ramis sæpe elongatis, ramossissimis. Folia brevia, concava, cellulis parvis areolata, nervis callosis dorso prominulis percursa. Fructus e partibus ulterioribus ramorum ramulorumque oriundi, thecis breviter pedunculatis æqualibus erectis, calyptris parvis.

Rami ramulis laxe dispositis pinnati. Folia late ovata, acuta. 1. *P. amazonum.*

Rami ramulis patulis decrescentibus pinnati. Folia oblongo-ovata, obtusissima, retusa, apiculo parvo brevissimo inserta. 2. *P. cristatum.*

Rami ramulis pluribus approximatis pinnati. Folia oblongo-ovata, basi cordata, apice obtusiuscula .... 3. *P. asperifolium.*

Rami ramulis copiosis tripinnatim divisi. Folia late ovata, acuta, in ramulis trifaria .... 4. *P. ramosissimum.*

Rami eleganter bipinnati. Folia late ovata, acuta, lateralia complicata. 5. *P. bipinnatum.*

Rami subsimpliciter pinnati. Folia ovato-oblonga, apice breviter acuminata .... 6. *P. divaricatum.*

Rami pinnati. Folia latissime ovata, acuta, in ramulis trifaria. 7. *P. lophophyllum.*

Rami pinnatim bipinnatimque ramosi. Folia ovato-lanceolata, apice latiuscula acuta .... 8. *P. compositum.*

Rami ramulis densis pinnatim bipinnatimque ramosi. Folia ovata obtusa, mucrone parvo terminata .... 9. *P. mucronatum.*

Rami bipinnati. Folia oblonga, breviter acuminata, basi auriculis parvis subcordata ....10. *P. procerum.*

Rami pinnati. Folia oblongo-lanceolata, acuta . . 11. *P. trinitense.*

Rami ramulis sparsis pinnati. Folia oblongo-elliptica, acuta.
12. *P. dubium.*

Rami inordinatim pinnati. Folia ovali-lanceolata, acuta.
13. *P. hypnoides.*

Rami plumæformi-pinnati. Folia late ovata, sensim acuminata.
14. *P. affine.*

1. P. AMAZONUM (*Mitt.*). Folia concava, utrinque papillata, marginibus superne crenulatis planis, nervis ad medium productis, cellulis in folii medio oblongis, ad apicem angulosque parvis rotundatis; ramulina ovalia acuta, nervis longioribus subinæqualibus, uno interdum in aculeum producto.

Hab. Fl. Amazon, Caripi, *Spruce,* n. 702; Santarem, *Spruce,* n. 703. Fl. Negro, S. Gabriel, *Spruce,* n. 701; Marabitanas, *Spruce,* n. 704.

Rami 2-unciales. Folia sordide viridia.

Habitus *P. rugifolii,* sed rigidius.

2. P. CRISTATUM (*Mitt.*). Folia patentia, turgide imbricata, concava, marginibus incurvis basi planis integerrimis, nervis sub apice abruptis prominentibus, dorso parce dentatis lævibusve, cellulis parvis ovalibus; ramulina concaviora subobovata, nervis apice sæpe dentato-cristatis; perichætialia oblongo-ovata, erecta, obtuse acutata, integerrima. Theca in pedunculo subæquilongo ovali-cylindracea, operculo conico subulirostrato, peristomii dentibus processibusque æquilongis.

Hab. Ins. Jamaica, *Wilson.*

P. rugifolio majus.

3. P. ASPERIFOLIUM (*Mitt.*). Rami crassiusculi. Folia patentia, imbricata, cymbiformia, sub apice obtusiusculo subundulata, nervis fere ad apicem productis, dorso prominulis serrulatis, apicibus dentiformibus exstantibus, marginibus crenulatis apice inflexis; ramulina ovalia acuta, marginibus planis, cellulis omnibus ellipticis limitibus exstantibus, folium intus extusque papillosum efficientibus; perichætialia externa ligulata, obtusiuscula, interna longiora lanceolata acutiora, marginibus recurvis reflexisve crenulatis. Theca in pedunculo ejusdem longitudinis, ovalis, operculo subulato, peristomii dentibus pallidis, interni processibus æquilongis; calyptra parva, plicata, ramentosa.

Hab. Andes Bogotenses, Montaña fluvii Sogamoza, etiam in montibus prope Bucaramanga (6500 ped.), ad arborum truncos, *Weir,* n. 148.

Rami 3-unciales, curvati, ramulis 6–9-linearibus simplicibus ramosisve. Folia flavo-viridia, aurescentia, sub apice transversim subundulata, apice ob marginis inflexuram acuminata, explanata tamen obtusiuscula.

Habitu statura coloreque *P. cristati* simile, foliis autem apice obtusis absque mucrone paginaque utraque papillifera diversum.

4. P. **RAMOSISSIMUM** (*Mitt.*). Rami gracillimi, inferne nudi proliferi, superne in frondem arbusculoideam ramulis copiosis gracillimis tripinnatim divisi. Folia parva, imbricata, cymbiformi-concava, basi excavata, nervis inæqualibus, uno longiore ad $\frac{3}{4}$ folii longitudinis producto dorso apice aculeiformi exstante, altero breviore apice angustiore vix exstante, marginibus planis recurvisve subcrenulatis, cellulis in folii medio oblongis ovoideisve, ad margines basique ad angulos brevioribus subrotundis, limitibus prominulis papilliformibus; ramulina ovata, nervo uno longiore dorsoque magis cristato serrulato; perichætialia externa lanceolata obtusiuscula, interna subulata, marginibus reflexis fere integerrimis. Theca in pedunculo vix longiore, ovalis, operculo subulato, peristomii externi dentibus angustis, interni processibus angustis æquilongis punctulatis, in membrana brevi exsertis.

Hab. Andes Bogotenses, in sylvis supra Pacho (6000 ped.), ad corticem arborum lævem, *Weir*, n. 133.

Rami 2–4-unciales, rigidi, inferne denudati fusco-nigri, superne valde ramosi. Folia parva, in ramulis distincte trifarie imbricata et sæpe in spiram laxam torta.

Habitu *P. bipinnato* subsimile, sed ramulis copiosioribus gracilioribus rigidioribus distinctum.

5. P. **BIPINNATUM** (*Schwægr.* t. 83, Neckera). Rami sæpe stipitati. Folia imbricata, compressa, lateralia complicato-carinata, superiora excavata, nervis dorso prominulis sub apice in aculeo exstantibus, interdum ex apicibus radicelliferis, marginibus subcrenulatis erectis angustissime recurvisve, cellulis omnibus elongatis ellipticis; ramulina pentasticha conformia, marginibus nervisque distinctius crenulatis; perichætialia externa ovali-elliptica, interna elliptico-lanceolata obtusiuscula, breviter nervata, marginibus recurvis. Theca in pedunculo ea paulo longiore sublævi, ovalis, operculo conico acuminato, peristomii dentibus pallidis, interni processibus æquilongis carinatis, apicibus ad apices dentium adhærentibus, basi in membrana brevi exsertis; calyptra ramentis parvis pilosa.

Hab. Ins. Jamaica, *Wilson*; Trinidad, *Purdie, Crüger*; Guadelupe, *Bertero*; Coybe, *Seemann*; Guiana, *Appun, Richard*; Surinam, *Herb. Dozy et Molkenboer*; Ecuador, *Seemann.* Fl. Amazon, Pará, ad ramulos in sylvis, *Spruce*, n. 699, et loco Tauaú, *Spruce*, n. 700; fl. Pastasa, *Spruce*, n. 696; fl. Negro, S. Gabriel, *Spruce*, n. 689; S. Carlos, ad rivulum Cauapuna, *Spruce*, n. 690. Andes Quitenses, Chimborazo in sylvis Cinchonæ (3000 ped.), *Spruce*, n. 691; fl. Bombonasa (1200 ped.), *Spruce*, n. 692; Llalla (9000 ped.), *Spruce*, n. 695. Andes Peruvianæ, Tarapoto, in rivulum Shillicaio (1500 ped.), *Spruce*, n. 693; Tarapoto (1500 ped.), *Spruce*, n. 694; ibidem ad rivulum Marona-yacu (2000 ped), *Spruce*, n. 697.

Rami 2–6-unciales, decrescenti-bipinnatim ramosi, basi stipite brevi. Folia pallide viridia, plus minus fulvescentia.

6. P. DIVARICATUM (*Mitt.*). Rami elongati. Folia patentia, laxe inserta, ramulinaque subcompressa, concava, marginibus basi planis superne crenulatis, nervis fere ad apicem productis cristulis dorso denticulatis, cellulis ovoideis lævibus; perichætialia erecta, lanceolata. Theca in pedunculo recto æquilongo, cylindracea, operculo subulirostrato, peristomii lutei processibus angustis dentibusque æquilongis.

Hab. Ins. S. Vincentis, in summo monte S. Andreæ, e ramis arborum dependens, *Guilding in Herb. Hooker, Parker*; Dominica, *McImray*; Jamaica, *Wilson.*

Rami 3–4-unciales, ramulis inæqualibus divergentibus ramosi. Folia sordide viridia, fuscescentia.

7. P. LOPHOPHYLLUM (*Sulliv. in Proceed. Amer. Acad.* 1861). Rami graciles. Folia parva, patentia, concava, nervis inæqualibus, uno dorso sub apice late cristato crenulato, marginibus planiusculis recurvisve subcrenulatis, cellulis ovoideis rotundisque basi ad angulos paucis rotundis; ramulina trifaria late ovata acuta, nervo uno latere apice sæpe radicellas prodeunte, cellulis in folii medio ellipticis; perichætialia externa elliptico-oblonga, interna longiora lanceolato-subulata subcrenulata, breviter tenuinervata.

Hab. Ins. Cuba, *Wright*, n. 78.

Rami unciales, gracillimi, arbusculoidei, stipitati, bipinnatim ramosi. Folia parva, viridia fulvescentia, nervis fere in foliis omnibus ex apice uno latere radicelliferis.

8. P. COMPOSITUM (*Sw. Prodr. Fl. Ind. Occ.* 141, Hypnum; *Hedw. Sp. Musc.* t. 46, Neckera). Folia e basi erectiore patentia, parum excavata; ramulina teretiuscule imbricata late ovata apiculata excavata, nervis dorso apicibus alatis abruptis, marginibus planiusculis recurvisve crenulatis, cellulis omnibus ovoideis, limitibus exstantibus papillata; "perichætialia lanceolato-acuminata, acuta, obsoletinervia. Theca in pedunculo breviter exserto, turgide ovalis, fusca, operculo conico subulato curviusculo pallidiore; peristomii externi dentes latissimi, pallidi, valde trabeculati, magni, interni lati, membranacei, carinati, imperforati; calyptra pilosa." —*C. Müll. Syn.* ii. 178.

Hab. Ins. Jamaica, *Swartz*; Venezuela, Caracas, *Moritz.*

Rami 2-unciales, inordinate subpinnatim ramosi. Folia fulvescentia an vere pentasticha an non e specimine parvo vix dijudicari potest.

P. bipinnato simile, ramificatio autem minus regularis et folia ramulina diversiformia.

9. P. MUCRONATUM (*Mitt.*). Folia erecto-patentia, teretiuscule imbricata, excavata, basi auriculis parvis cordata; ramulina quinquefaria breviter ovata apice retusa mucronata, marginibus integerrimis, nervis dorso sub apice abruptis cristatis crenulatis, cellulis fere omnibus parvis ovali-rotundis sublævibus. Flos masculus gemmiformis, antheridiis pluribus.

Hab. Ins. Jamaica, *Heward, Purdie.*

Rami 2-unciales, ramulis 3–6-linearibus ramosi. Folia glauco-viridia, pallide fulvescentia.

Habitu et statura *P. compositi,* sed folia ramulina diversiformia.

10. P. PROCERUM (*Mitt.*). Rami elongati. Folia ramulina dense inserta, erecto-patentia, compressa, imbricata, excavata, nervis sub apice dorso abruptis parce dentatis, marginibus subcrenulatis inferne reflexis, cellulis omnibus ovalibus ellipticisque lævibus; perichætialia externa linearia, interna lanceolata acuminata nervata, marginibus recurvis apice serrulatis. Theca in pedunculo ea paulo longiore scabro, ovalis, operculo conico acuminato, peristomii interni dentibus externo longioribus.

Hab. Ins. Sti. Vincentis, *Guilding, Herb. Hooker.*

Rami 9-unciales, ramulis divergentibus parce ramosi, eleganter bipinnatim divisi. Folia viridia, fuscescentia.

11. P. TRINITENSE (*Mitt.*). Rami humiles. Folia patentia, laxe imbricata, concava, margine plana, minute crenulata, nervis approximatis distinctis vel plus minus inferne coalitis, supra folii medium evanidis; ramulina pentasticha magis excavata, cellulis omnibus ovali-ellipticis, extus lævibus, intus limitibus prominulis papillosis.

Hab. Ins. Trinidad, ad Maraccas et Cheguanas, *Black.*

Iconi Hedwigiano *P. hypnoidis* (Musc. Frond. 3, t. 18) simillimum, e foliorum forma autem *P. amazonico* subaffine.

12. P. DUBIUM (*Mitt.*). Folia imbricata, concava, acuta, nervis basi coalitis ultra folii medium evanidis lævibus, marginibus crenulatis, cellulis oblongis parvis dorso papillosis.

Hab. Ins. Guadelupe, *Herb. Hooker.*

Rami 3-unciales. *P. rugifolio* simile.

The country whence this species was received is not quite certain; another specimen, appearing almost as if a portion of the same, was marked Madagascar.

13. P. HYPNOIDES (*Sw. Prodr. Fl. Ind. Occ.* 138, Neckera; *Hedw. Musc. Frond.* iii. 43, t. 37). Folia erecto-patentia, imbricata, apice latiuscula, acuta, excavata, nervis basi sæpe coalitis dorso prominulis sub apice abruptis anguste alatis, marginibus subcrenulatis, cellulis omnibus parvis ovoideis; ramulina magis elliptico-lanceolata; perichætialia longius lanceolata. Theca immersa, ovato-oblonga; operculum breve acuminatum; peristomii dentes exteriores albidi, trabeculati, non fissiles, interioris cilia totidem tenerrima articulata albida; calyptra pilis erectis hispida.—*Brid.*

Hab. Ins. Jamaica, *Swartz.*

Rami 2-unciales, subpinnatim ramosi. Folia viridia. Florescentia monoica (*Swartz, Brid. l. c.*), dioica autem secundum Hedwig, *l. c.*

14. P. AFFINE (*Hook. Musc. Exot.* t. 122, Neckera). Folia undique

inserta, e basi brevi erectiore patentia, inferne late ovalia, sensim acuminata lanceolata, apice acuminata acuta, concava, nervis dorso prominentibus anguste alatis sub apice abruptis, marginibus subintegerrimis, cellulis omnibus ovoideis ellipticisve; ramulina lanceolato-subulata. Theca in pedunculo ea breviore, ovali-cylindracea, peristomii dentibus processibusque æquilongis pallidis.

Hab. Ins. Sti. Vincentis, *Menzies*; Jamaica, *Wilds.*

Rami 1–2-unciales, strictiusculi, simpliciter pinnati. Folia viridia, fulvescentia, dense inserta, omnia patentia strictiuscula.

Habitu ab affinibus ob folia angusta non excavata stricta patentia satis diversum.

67. ADELOTHECIUM.

A. BOGOTENSE (*Hampe in Ann. Sc. Nat.* ser. 5. v. 303, Hookeria). Dioicum; caulis inferne procumbens adscendens dichotome divisus, apicibus interdum stoloniformi-attenuatis microphyllis decurvis. Folia verticaliter complanata, obovata, lateralia patula basi inæqualia, nervo uno lateri propinquiore, intermedia minora brevioraque, media lateralibus dimidio minora basi æqualia, omnia obtusa apiculo parvo terminata, margine minutissime crenulata, nervo sub apiculi basi evanido, cellulis cartilagineis pallidis fere ubique rotundis, paucis inferne ad nervum longioribus; perichætialia ovata, loriformi-subulata, erectiuscula, brevinervata. Theca in pedunculo brevi, ovata, erecta, operculo umbonato subulato-rostrato, peristomii dentibus lanceolatis pellucidis pallidis teneris, strato interno fere obsoleto, linea media notatis, articulis extus intusque prominulis; calyptra ad operculi basin usque descendens, basi incurva plicata plurifida, superne lævis et ramentis elongatis erectis appressis nitidis pilosa.

Hab. Ins. Jamaica; Cuba inter muscos ex *Herb. Montagne.* Andes Bogotenses, *Lindig, Weir.* Brasilia tropica, *Burchell.*

Caulis 1–4 uncias longus, parce dichotome divisus, inferne rufescens, hic illic glomerulis tomenti radiculosi rubiginosi radicans. Folia lateralia 1½ lineam longa, juniora pallide viridia, mox pallide lutescentia obscuriuscula subglaucescentia, inferiora fulvescentia, omnia firma, cartilaginea, siccitate parum mutata. Pedunculus vix lineam longus, crassiusculus, ruber, a caulis latere inferiore patulo exstans. Theca fusca, basi in collum breve angustum a pedunculo distinctum contracta. Calyptra fusca. Flos masculus gemmaceus, foliis enervibus arcte convolutis.

Muscus primo visu e foliorum forma et ex habitu *Pterygophyllo quadrifario* admodum similis, fertilem solus legit Weir.

68. ERIOPUS, Brid. ii. 339.

Musci humiles et graciles vel elati robustique, caulibus simplicibus furcatisve rarius proliferis. Folia lata, cellulis latis pellucidis areolata, margine limbo plus minus conspicuo circumducta. Thecæ parvæ, operculo subulato, collo distincto angusto, in pedunculo breviusculo superne uno latere dense hispido rarius nudo, peristomii dentibus laminis coæqualibus, interni processibus carinatis, calyptris basi fimbriatis. *Habitatio* ad ligna.

Pedunculus superne hispidus.	
Flores monoici.	
Folia lateralia ovali-oblonga	1. *E. mniadelphus.*
Folia lateralia oblongo-elliptica	2. *E. setigerus.*
Flores dioici.	3. *E. nutans.*
Pedunculus nudus	4. *E. apiculatus.*

1. E. MNIADELPHUS (*Spruce*). Humilis, gracilis. Folia media late ovata, intermedia late ovalia, lateralia lata, omnia breviter acuminata, margine a medio ad apicem denticulata, anguste limbata, cellulis oblongis areolata, nervis binis brevibus; perichætialia parva ovata acuminata subdentata. Pedunculus foliis lateralibus dimidio longior, pallidus, apice curvatus ibique latere superiore setulis pallidis articulatis dense obtectus. Theca brevis, cyathiformis, fusca, pendula; calyptra setulis paucis subnuda, basi breviter fimbriata.

Hab. Andes Quitenses, in monte Guayrapata, *Spruce*, n. 223.

Caulis unciam altus. Folia lateralia 2 lineas longa, lineam lata, intermedia mediaque 1½ lineam longa, omnia pallide viridia, pellucida.

2. E. SETIGERUS (*Mitt.*). Folia media intermediaque ovalia acuminata, lateralia longiora divergentia acuminata, omnia nervis brevibus vix ultra $\frac{1}{6}$ folii longitudinis productis, marginibus e seriebus tribus cellularum elongatarum limbatis spinuloso-dentatis, cellulis ovali-hexagonis pellucidis; perichætialia parva, subulato-acuminata. Theca in pedunculo pallido setuloso setis apicem versus longioribus articulatis, ovalis, collo pyriformi nutans, operculo conico tenuirostrato, peristomii dentibus crassis, processibus carinatis æquilongis, in membrana ad medium dentium producta positis.

Hab. Brasilia australis, in sylva prope Rio Grande, inter Santos et S. Paulo, ad arborum truncos delapsos putrescentes, *Weir*, n. 6.

Rami unciales, cum foliis 2 lineas lati. Pedunculus 2-linearis.

Species *E. mniadelpho* simillima, sed foliis minus flaccidis, cellulis fere dimidio minoribus et limbo latiore, theca magis ovali, pedunculo e basi setuloso diversa.

3. E. NUTANS (*Hampe in Linnæa*, xxxii. 153). Laxe cæspitosus, gracilis, adscendens, complanatus, sordide viridi-pallescenti-nitens; caulis basi fusco-radiculosus, subsimplex, laxe foliatus. Folia lateralia longiora, distiche patentia, e basi producta, oblique ovata acuminata, nervo furcato crassiore, alia rotundato-ovata acuminata nervo furcato breviore, omnia flaccida, humida planiuscula, sursum marginata, basi integerrima, mox

latere dentata, superne spinoso-dentata, cellulis rhomboideis, inferioribus laxioribus versus apicem minoribus, interstitiis crassis flavescentibus hyalina; perichætialia brevissima tenuiora, late ovata acuminata, immarginata. Seta brevis, gracillima, basi parce noduloso-trabeculata, apice curvata, fimbriato-cristata. Theca parva, longicolli-pyriformis, nutans, ore rubro, operculo conico subulato recto; calyptra brevis, mitriformis, pallida, basi multifida, peristomii dentes exteriores lanceolato-subulati crocei, interiores cruribus carinatis æquilongis pallidis.

Hab. Andes Bogotenses, Tequendama, Canoa, ad arborum radices (2500 metr.), *Lindig.*

Chætophoræ cristatæ Brid. proximus, gracilior, complanatus, minus ramosus, seta tantum apice fimbriato-cristata calyptraque basi multifida satis diversus.—*Hampe, l. c.*

4. E. APICULATUS (*Hook. et Wils. in Hook. Lond. Journ.* iii. 549; *Crypt. Antarct.* t. 155. f. 6). Humilis. Folia lateralia rotundo-obovata, intermedia mediaque rotunda, omnia apiculo brevi terminata, limbo latiusculo e cellularum seriebus 3–4 composito, superne minute denticulato, nervo brevissimo fere obsoleto, cellulis pellucidis, inferioribus ovalibus, superioribus rotundo-hexagonis; perichætialia parva, rotunda, apiculata. Pedunculus pallidus, crassus, papuloso-rugosus. Theca ovalis, inclinata.

Hab. Fuegia, Hermite Island, *J. D. Hooker,* et fertilis in Tasmania, *Gunn.*

Caulis ½–¾ unciam longus, cum foliis 1–1½ lineam latus. Folia viridia. Pedunculus 2-linearis.

Although the seta is without the bristles so conspicuous in the other species, this moss appears to belong to the same genus.

69. DISTICHOPHYLLUM, Dozy et Molk. Musci Archip. Ind. 99.

Musci ut plurimum parvi, caulibus erectis adscendentibusve, interdum procumbentibus, simplicibus vel ramosis. Folia lata, acuta vel obtusa, sæpius cartilagineo-marginata, cellulis abbreviatis hexagono-rotundis pellucidis. Thecæ longiuscule pedunculatæ, peristomii dentibus lamina externa solida vel per medium divisa, interni processibus carinatis, calyptris basi fimbriatis. *Habitatio* ad ligna putrida et in saxis.

Sect. 1. MNIADELPHUS. *Caulis erectis adscendensve, subsimplex. Theca erecta vel inclinata.*

Peristomium internum brevius.................... 1. *D. palmarum.*

Peristomium internum externo æquilongum.

Flores monoici.

Folia lateralia oblongo-spathulata, omnia in acumen angustum subpiliforme producta.................... 2. *D. pungens.*

Folia lateralia spathulata, omnia acumine brevi terminata.
3. *D. pusillum.*

Folia lateralia spathulato-oblonga spathulatave, omnia angulo obtuso vel apiculo brevi terminata .... 4. *D. andicola.*

Folia lateralia spathulata, omnia apice acuminata 5. *D. cubense.*

Folia lateralia late ovali-elliptica subrotundo-ovaliave, omnia acumine angusto terminata .... 6. *D. elongatum.*

Flores dioici.

Folia omnia æqualia ovalia obtusa vel mucrone brevi terminata.
7. *D. flaccidum.*

Folia lateralia e basi breviter spathulata oblongo-ovata, cuspide acuminata .... 8. *D. auratum.*

Sect. 2. DISCOPHYLLUM. *Caulis procumbens repensve, ramis assurgentibus cæspitosis. Fructus e caule primario oriundus. Theca horizontalis.*

Flores dioici. Folia æqualia .... 9. *D. Dicksoni.*

Flores monoici. Folia inæqualia .... 10. *D. procumbens.*

Sect. 1. *Mniadelphus*, C. Müll. Syn. ii. 20, ex parte.

1. D. PALMARUM (*Mitt.*). Folia compressa, lateralia patentia, spathulata, intermedia spathulato-oblonga, media parum minora oblonga, omnia brevissime acuminata, nervis supra medium evanidis, limbo angustissimo marginata, cellulis parvis ovalibus, parietibus latis; perichætialia ovata. Theca in pedunculo elongato erecta, ovalis, operculo subulato, peristomii dentibus elongatis, interni processibus angustis brevioribus.

Hab. Andes Quitenses, in sylva Canelos ad palmarum truncos (4000 ped.), *Spruce*, n. 570.

Rami 3–4 lineas alti, cum foliis lineam lati. Folia fusca, plana. Pedunculus 7-linearis.

2. D. PUNGENS (*Mitt.*). Folia compressa, lateralia patentia, intermedia oblonga, media ovalia, marginibus flexuosis, limbo angusto undulato, nervis medio evanidis, cellulis parvis rotundis; perichætialia ovalia, acuminata. Pedunculus scabrosus.

Hab. Andes Peruvianæ, in monte Guayrapurina, ad saxa umbrosa (2500 ped.), *Spruce*, n. 571.

Rami $\frac{1}{2}$ unciam longi, interdum longiores, cum foliis vix $1\frac{1}{2}$ lineam lati. Folia viridia, ob marginum flexuram crispula.

3. D. PUSILLUM (*Mitt.*). Folia compressa, lateralia patentia, intermedia conformia breviora, media oblonga, nervis infra apicem evanidis, limbo angusto flavo-viridi, cellulis minutis rotundis diametro circiter $\frac{1}{3000}$ unciæ metientibus; perichætialia parva ovata. Theca in pedunculo longiusculo, ovalis, inclinata, operculo subulato; calyptra basi fimbriata.

Hab. Nova Granata, inter *Lophocoleam connatam* ad radicem filicis cujusdam, *Funck et Schlim.*

Caulis 2-linearis, cum foliis linea parum latior. Pedunculus 2-linearis.

4. D. ANDICOLA (*Spruce, MS.*). Folia compressa, lateralia patenti-divergentia, intermedia erectiora, media oblonga, nervo infra apicem evanido, margine flexuosa, limbo angustissimo, cellulis parvis rotundis diametro circiter $\frac{1}{2000}$ unciæ metientibus, basilaribus paucis oblongis; perichætialia erecta, ovata, acuminata. Theca in pedunculo brevi gracili, parva, ovalis, inclinata, operculo subulato, peristomii dentibus processibusque æquilongis punctulatis obscuris; calyptra ramentis paucis albidis, superne erectis, basin versus pendulis.

Hab. Ins. Cuba, ad arbores, *Wright*, n. 87 ex parte. Andes Quitenses, fl. Bombonasa (1000–1500 ped.), *Spruce*, n. 572; in sylva Canelos (3000 ped.), *Spruce*, n. 574. Andes Peruvianæ, in monte Campana juxta rivulum Sinchen (3000 ped.), *Spruce*, n. 573.

Caules $\frac{1}{4}$–1 unciam longi, cum foliis $1\frac{1}{2}$ lineam lati. Folia læte viridia. Pedunculus 2-linearis.

D. adnato Hook. f. et Wils., Floræ Novæ Zelandiæ, simile, cellulis foliorum autem longe minoribus et pedunculo thecaque diversum.

5. D. CUBENSE (*Mitt.*). Folia compressa, lateralia patentia, intermedia oblonga, media ovalia, nervis medio evanidis, marginibus parum flexuosis, limbo angusto, cellulis parvis rotundis diametro circiter $\frac{1}{2000}$ unciæ metientibus; perichætialia erecta, ovata, acuminata. Theca in pedunculo brevi, ovalis, inclinata, operculo subulato; calyptra apice scabra, basi filis albidis fimbriata.

Hookeria adnata, var., *Sulliv. in Proceed. Amer. Acad.* 1861.

Hab. Ins. Cuba, ad arborum corticem, *Wright*, n. 87.

Rami breves, 2–3 lineas longi, cum foliis lineam lati. Folia pallide læte viridia, planiuscula. Pedunculus lineam longus.

6. D. ELONGATUM (*Mitt.*). Rami elongati. Folia compressa, lateralia patenti-divergentia, intermedia ovalia, media breviora rotundo-ovalia, nervis angustis infra apicem evanidis, marginibus flexuoso-sinuatis, limbo angusto composito circumdatis, cellulis in folii medio diametro circiter $\frac{1}{1000}$ unciæ metientibus, versus margines dimidio minoribus, basi nonnullis quadrato-oblongis.

Hab. Andes Bogotenses, Boqueron prope Bogota (8600 ped.), ad rupes roridas, *Weir*, n. 368.

Rami 2-unciales altioresque, flaccidi, graciles, cum foliis 2 lineas lati. Folia tenera, læte viridia.

Similar to *D. pungens* in the flexuose margins of the leaves, but larger, and with more rounded leaves and more lax areolation.

7. D. FLACCIDUM (*Hook. et Wils. in Hook. Lond. Journ.* iii. 549; *Fl. Antarct.* t. 155. f. 5, Hookeria). Folia compressa, imbricata, lateralia pa-

tentia, ovalia, cochleariformi-concava, marginibus involutis, apice vel rotundata obtusa vel mucrone brevi terminata, nervo angustissimo sub apice evanido, limbo angusto e serie triplici cellularum composito, cellulis superioribus rotundo-hexagonis, inferioribus oblongis, omnibus teneris fragillimis; perichætialia elongata, subconformia. Theca in pedunculo elongato, ovalis, erecta, peristomii dentibus luteis linea pellucidiora notatis, interni processibus æquilongis in membrana ad dentium longitudinis medium exserta impositis.

Hab. Fuegia, Hermite Island, *J. D. Hooker.*

Rami 1½–3-unciales, ramosi, cum foliis lineam lati. Folia fusca, fragillima. Pedunculus uncialis.

8. D. AURATUM (*C. Müll. Syn.* ii. 26, Mniadelphus). Pusillum, tenellum, auratum, late gregarium v. cæspitosum, parce dichotomum, erectum, subrosulatum. Folia caulina laxe appressa, e basi breviter spathulata oblongo-ovata, cuspide acuminata, undulate flexuosa, pulcherrime aurato-flavida, ubique crassiuscule flavide limbata integerrima, nervo parum carinato flexuoso ante apicem evanido, cellulis ubique fere parvis pachydermibus flavidis subrotundis, basis infimæ fuscis laxis, basis ipsius brevissime longioribus; perichætialia paucissima, minutissima, lanceolato-acuminata, obsolete marginata. Theca in pedunculo brevi erecto curvato glabro superne in collum breve incrassato, minutissime ovalis, aperta urceolata, subrugulosa, intense fusca, operculo conico subulato recto, calyptra eleganter aurate fimbriata glabra; peristomium minutissimum, externi dentes angustissime exarati, interni dentes in membrana brevi carinate lanceolati, haud perforati, angulosi.—*C. Müll. l. c.*

Hab. Ins. Trinidad, in monte Tochuche, *Crüger.*

Sect. 2. *Discophyllum,* Mitt. in Journ. Linn. Soc. 1868.

9. D. DICKSONI (*Hook. Lond. Journ.* iii. 549, Hookeria). Rami intricate cæspitosi. Folia compressa, lateralia patentia divergentia, omnia æqualia obovata, apice apiculo brevi angusto, nervis ultra medium evanidis, marginibus limbo angusto, cellulis superioribus rotundatis diametro circiter $\frac{1}{2000}$ unciæ metientibus, inferioribus majoribus; perichætialia latissime ovalia acuminata. Theca in pedunculo elongato, ovalis, horizontalis, operculo acuminato obtuso, peristomii dentibus cellulis laminæ externæ inferne discretis, igitur linea pellucida notatis, interni processibus carinatis pertusis, in membrana fere ad dentium medium usque producta impositis hyalinis.

Hab. Fuegia, Hermite Island, et in ins. Falkland, *J. D. Hooker.*

Rami cum foliis vix lineam lati. Folia pallide lutea. Pedunculus 6-linearis.

10. D. PROCUMBENS (*Mitt.*). Folia compressa, lateralia patentia, spathulato-oblonga oblongaque, intermedia magis oblonga, media minora ovali-oblonga, omnia apice obtusa, acumine brevi terminata, margine

flexuosa, limbo angustissimo, cellulis rotundis diametro circiter $\frac{1}{1000}$ unciæ metientibus; perichætialia parva, late ovata, apiculata. Theca in pedunculo elongato, ovalis, horizontalis, peristomii dentibus ob cellulas laminæ externi secedentes linea pellucida notatis, interni processibus carinatis, in membrana alte exsertis.

Hab. Fuegia, Hermite Island, inter *D. Dicksoni, J. D. Hooker.*

Rami cum foliis 1½ lineam lati. Folia pallide lutea. Pedunculus 9-linearis.

70. PTERYGOPHYLLUM, Brid. ii. 341, ex parte.

Musci caulibus plus minus elongatis parum divisis adscendentibus. Folia lata, obtusa, obscura, subcarnosa, cellulis abbreviatis hexagono-rotundis areolata, nervis apice furcatis. Thecæ longe pedunculatæ, horizontales, peristomii dentibus laminis coæqualibus, interni processibus carinatis. *Habitatio* ad ligna et in saxis humidis.

Folia lateralia spathulata obtusa	1. *P. denticulatum.*
Folia lateralia oblongo-spathulata	2. *P. anomalum.*
Folia lateralia spathulata, grosse serrata	3. *P. obscurum:*

1. P. DENTICULATUM (*Hook. et Wils. in Hook. Lond. Journ.* iii. 550; *Crypt. Antarct.* t. 62. f. 2). Caulis erectus, apice nutans, inferne radiculosus. Folia lateralia patenti-divergentia, intermedia oblonga, media late ovalia, omnia apice obtusa, margine grossiuscule dentata, nervo latiusculo sed tenero ultra medium producto, apice interdum furcato, basi in foliis lateralibus uno lateri propinquiore, cellulis hexagonis pellucidis, limitibus angustis.

Hab. In archipelago Chonos, *Darwin*; Fuegia, Hermite Island, *J. D. Hooker.*

Caulis 1–2-uncialis. Folia lateralia 1¼ lineam longa, ½ lineam lata, pallide fulva.

2. P. ANOMALUM (*Schwægr.* t. 278, Rhacopilum). Caulis adscendens vel erectus, apice decurvus, inferne radiculosus. Folia lateralia patentia obtusa, intermedia subrhombea angulis rotundatis basi angustata, media rotunda, omnia nervis medio evanidis, margine dentata, cellulis hexagonis rotundisque marginem versus obscurioribus.

Hab. Fuegia?, *Menzies*; ins. Hermite, *J. D. Hooker.*

Caulis 1–6 uncias altus, superne divisus. Folia sparsa, obscure fusco-viridia.

The specimens obtained by Dr. Hooker are much less than represented by the figure drawn from those gathered by Menzies, who probably collected his specimens in Fuegia, although they are stated by Schwægrichen to have been gathered in North-west America; for, so far as yet known, the genus is entirely austral.

3. P. OBSCURUM (*Mont. in Ann. Sc. Nat.* ser. 3. iv. 93, Hookeria). Monoicum?, erectum, breve, subsimplex. Folia quadrifariam imbricata, lateralia patenti-erecta spathulata, dorsalia erectiuscula, omnia apice grosse serrata, nervo crasso subbifurco ante apicem evanido.—*C. Müll. Syn.* ii. 204.

Hab. Chili australior.

71. DALTONIA, Hook. et Tayl. Muscol. Brit. ed. 1. 80.

Musci humiles, pulvinatim cæspitosi, caulibus adscendentibus simplicibus, rarius divisis. Folia angusta, nervo in plica parva carinæformi sepulto, infra apicem folii evanido, perichætialia minuta. Thecæ erectæ suberectæve, breves, operculis recte subulatis, in pedunculo scabro breviusculo rarius elongato exsertæ, peristomii dentibus laminis coæqualibus, interni processibus angustis in membrana brevi impositis; calyptris fimbriato-laceris. Florescentia monoica vel synoica. *Habitatio* ad arbores et in saxis.

Cellulæ foliorum limitibus rotundatis.	
Folia late elliptico-oblonga, acuminata	1. *D. pulvinata.*
Folia oblongo-lanceolata, acuminata	2. *D. brasiliensis.*
Folia lanceolato-linearia, acuminata	3. *D. longifolia.*
Cellulæ foliorum limitibus angulatis.	
Folia lineari-lanceolata	4. *D. irrorata.*
Folia oblongo-linearia, apice acuminata	5. *D. trachyodonta.*
Folia oblongo-lanceolata, acuminata	6. *D. bilimbata.*
Folia oblongo-lanceolata, acumine cuculliformi convoluto-cuspidata.	7. *D. cucullata.*
Folia inferne ovalia, inde ligulata acuminata ..	8. *D. compressa.*
Folia lanceolata, apice acuminata	9. *D. ovalis.*
Folia ovata, acuminata	10. *D. Jamesoni.*
Folia oblongo-linearia lineari-lanceolatave, acuminata.	11. *D. peruviana.*
Folia linearia, apice acuminata	12. *D. gracilis.*
Folia anguste linearia, sensim angustata	13. *D. stenophylla.*
Folia lineari-lanceolata, acuminata	14. *D. tenuifolia.*
Folia anguste lanceolata, acuta	15. *D. macrotheca.*

1. D. PULVINATA (*Mitt.*). Folia dense inserta, erecto-patentia, sicca curvata contorta, plica media profunde exarata, limbo tenui inferne latiore circumducta, margine uno latere reflexa, integerrima, cellulis parvis ovali-

bus, omnibus rotundatis pellucidis; perichætialia enervia. Theca in pedunculo breviusculo rubro superne scabro, obovata, erecta, operculo subulato; calyptra copiose fimbriata.

Hab. Andes Bogotenses, prope Bogota, *Weir.*

Caulis vix ½ unciam altus, cum foliis lineam latus. Folia viridia, lutescentia. Pedunculus 3-linearis.

D. longifoliæ foliorum cellulis parvis ovalibus similis, sed minor, foliis siccis magis spiraliter contortis, latioribus brevioribusque.

2. D. BRASILIENSIS (*Mitt.*). Folia subcompressa, patula, planiuscula, nervo flavo superne carinata, limbo flavo angusto marginata, cellulis omnibus parvis ovoideis, interstitiis crassiusculis, limitibus rotundatis; perichætialia ovata acuminata enervia. Pedunculus superne scaber. Theca ovalis, erecta, peristomii dentibus crassiusculis, intus crasse trabeculatis, interni processibus superne minute papillosis.

Hab. Brasilia, Sierra de Piedade, prov. Minas Geraës, *Gardner*, n. 78.

Caulis 6 lineas altus. Folia 1½ lineam longa, fulvescentia. Pedunculus 5-linearis.

Statura *D. ovali* similis, foliis autem latioribus marginibus haud recurvis diversa.

3. D. LONGIFOLIA (*Tayl. in Hook. Lond. Journ.* vii. 284). Rami parce ramosi. Folia patentia, compressa, subflexuosa, apice concava convexave, margine limbo luteo angusto, apice minute serrulata, cellulis oblongis ovalibusque, limitibus rotundatis ut plurimum oblique dispositis; perichætialia ovata. Theca in pedunculo rubro apice scabro erecta subinclinatave, operculo subulato, peristomii dentibus angustis elongatis processibusque æquilongis dense papillosis.

Hab. Andes Quitenses, Quito, *Jameson*; Guayrapata ad ramulos (9000 ped.), *Spruce*, n. 566; Antombos in ramulis *Citri limonii* (5000 ped.), *Spruce*, n. 565.

Rami ¼–1 unciam longi, parum divisi. Folia viridia lutescentia, compressa vel undique erecto-patentia. Pedunculus 4-linearis.

4. D. IRRORATA (*Mitt.*). Rami elongati. Folia undique patentia, nervo in plica parva carinata, limbo angusto ubique reflexo marginata, cellulis inferioribus elongatis angustis, superioribus ellipticis ut plurimum utriculi vestigio obscuriusculis; perichætialia ovata acuminata enervia. Theca in pedunculo breviusculo rubro, ovalis, erecta, operculo subulato, peristomii dentibus processibusque pallidis; calyptra basi copiose fimbriata.

Hab. Andes Bogotenses, Boqueron prope Bogota infra rupium stillicidia, ad ramulos emortuos saxaque (8500 ped.), *Weir*, n. 193, 294, 329, 336, 338.

Rami unciales longioresque ramosi. Folia viridia aurea fulvescentia, fere 2 lineas longa. Pedunculus 5–6-lineares. Theca brevis.

5. D. TRACHYODONTA (*Mitt.*). Folia compressa patentia, nervo in plica parva sepulto, margine limbo angusto plano recurvove, cellulis inferne laxioribus, omnibus oblongis angulis distinctis parietibus angustis, utriculo undulato repletis obscuriusculis; perichætialia ovata, acuminata, enervia. Theca in pedunculo rubro superne subscabro, breviter ovalis, operculo subulato, peristomii dentibus processibusque papillis erosis.

Hab. Andes Quitenses, Cayambe, una cum *D. ovali*, *Jameson.*

Rami ½-unciales. Folia 1½ lineam longa, viridia, fulvescentia. Pedunculus 5-linearis, sublævis.

A *D. ovali* foliis basi haud conctractis cellulis laxioribus superioribus utriculo suffultis, pedunculo læviore et statura minora recedit.

6. D. BILIMBATA (*Hampe in Linnæa*, xxxii. 151). Cæspites radiculis fuscis fibrillosis basi connexi, subunciales, viridi-lutescentes; caulis subsimplex, erectus, apice parce compressus, undique dense foliatus. Folia canaliculata, laxe accumbentia, flexuosa, humida patenti-erecta, parum flexa, limbo exteriore angustissimo lutescente, interiore dilatato latissimo e cellulis elongatis pellucidis formato, integerrima, nervo ante apicem evanido, cellulis basilaribus aureis, intermediis laxioribus versus apicem sensim minoribus, tota hyalina. Seta mediocris, intense crocea, glabriuscula. Theca ovato-elliptica, subapophysata, operculo umbonato conico subulato flavido; calyptra pilosa apice fuscata, basi dense laciniato-barbata.

Hab. Andes Bogotenses, Bogota, Monserate, in sylvis umbrosis ad truncos (2800 metr.), *Lindig.*

D. longifoliæ proxima differt foliis bilimbatis, cellulis laxioribus, setaque glabriuscula.—*Hampe, l. c.*

7. D. CUCULLATA (*Hampe in Linnæa*, xxxii. 151). Cæspites radiculis fuscis fibrillosis connexi, fusco-lutescentes; caulis subsimplex, teres, undique foliatus, apice attenuatus. Folia canaliculata, margine flavo limbata, integerrima, limbo versus apicem angustiore, nervo lutescente ante apicem evanido, cellulis basilaribus paucis majoribus fusco-luteis, in lamina paulo minoribus pentagonis sublimpido-hyalinis, versus apicem condensatis flavicantibus. Seta fusca, scabra, erecta. Theca pyriformi-cylindrica, opaca, operculo conico subulato rubro; calyptra brevis, straminea, apice fuscata, basi fimbriata.

Hab. Andes Bogotenses, Bogota Los Laches (2800 metr.), ad ramos, *Lindig.*

D. splachnoidi proxima, differt statura majore et robustiore, foliis latioribus acumine cuculliformi convoluto-cuspidatis, cellulis basilaribus fuscoluteis cæteris majoribus magis hyalinis, seta magis scabra et operculo rubro.—*Hampe, l. c.*

8. D. COMPRESSA (*Mitt.*). Folia patentia, compressa, dimidio inferiore ovalia, superiore ligulato-lanceolata, acuminata, subcarinata, nervo angusto infra apicem in excavationem subcucullatum desinente, margine limbo lato

hyalino inferne fere dimidium folii latitudinis occupante circumdata, versus apicem anguste recurva reflexave, cellulis inferioribus oblongis laxioribus, superioribus parvis ovoideis, omnibus angulis distinctis; perichætialia ovato-acuminata, enervia. Theca in pedunculo elongato rubro superne scabro, ovali-cylindracea.

Hab. Andes Bogotenses, *Weir*, n. 349.

Caulis uncia brevior. Folia $2\frac{1}{2}$ lineas longa, foveolato-undulata, luteo-viridia, fulvescentia, margine limbo tenui latissimo. Pedunculus 8-linearis.

A *D. longifolia* forma foliorum angustiore et limbo latiore recurvo reflexove differt.

9. D. OVALIS (*Tayl. in Hook. Lond. Journ.* v. 66). Folia patentia, basi angustata, nervo in plica parva vix sepulta, limbo ubique revoluto integerrimo circumducta, cellulis parvis oblongis ovoideisve limitibus angulis plus minus distinctis; perichætialia ovata acuminata enervia. Theca in pedunculo elongato rubro scabro, ovalis, subinclinata, operculo subulato, peristomii dentibus processibusque elongatis angustis papillosis.

Hab. Andes Quitenses, Cayambe, ad ramos *Acidontiis Cryphæisque* associata, *Jameson.*

Caules $\frac{1}{2}$ unciam altus. Folia $1\frac{1}{2}$ lineam longa, fusca, limbo adeo revoluto ut primo visu folia limbo obscuro quasi marginata. Pedunculus 6–7 lineas longus, superne sensim scabrosior.

10. D. JAMESONI (*Tayl. in Hook. Lond. Journ.* vii. 283). Folia erecto-patentia, plica media profunda carinata, margine anguste limbata revoluta, cellulis oblongis quadratisque intermixtis; perichætialia breviora obtusiora enervia. Theca in pedunculo rubro superne scabro, ovalis, erecta, operculo subulato; calyptra basi copiose fimbriata.

Hab. Andes Quitenses, in monte Pichincha, *Jameson.*

Caulis 1–2-uncialis, compacte cæspitosus, inferne radicellis rubris intertextus. Folia lutea. Pedunculus $\frac{1}{2}$-uncialis.

Species e distinctissimis, foliis pellucidis, cellulis pluribus quadratis, marginibus præcipue superioribus revolutis, nervo in plica profunda abscondito.

11. D. PERUVIANA (*Mitt.*). Folia dense inserta, in caulium apicibus subcuspidato-imbricata, compressa, sicca flexuosa subtorta, patentia, margine limbo latiusculo anguste reflexo, cellulis basilaribus oblongis, superioribus minoribus, versus apicem folii brevioribus, iis folii medii circiter longitudine $\frac{1}{1000}$ latitudine $\frac{1}{3000}$ unciæ metientibus, omnibus angulis distinctis; perichætialia ovata enervia. Theca in pedunculo superne scabro, ovalis.

Hab. Andes Peruvianæ, Cordillera de Raneo, Sachapata, *Lechler.*

Caulis $\frac{1}{2}$–1-uncialis. Folia $1\frac{1}{2}$ lineam longa, pallide lutea, mollia. Pedunculus 4-linearis. Colore foliorum *D. Jamesoni* similis, at paululum robustior et folia diversa.

12. D. gracilis (*Mitt.*). Folia erecto-patentia, margine anguste limbata, angustissime reflexa, cellulis basilaribus paucis rhombeis, superioribus parvis ellipticis, omnibus distincte angulatis obscuriusculis; perichætialia ovata enervia. Theca in pedunculo superne scaberrimo, ovali-elliptica, operculo subulato, peristomii dentibus processibusque superne papillosis.

Hab. Andes Quitenses, in sylva Canelos, ad folia et ramulos præcipue Bambusarum (3000 ped.), *Spruce*, n. 560.

Caulis 2–3 lineas altus. Folia luteo-fulva, $1\frac{1}{2}$ lineam longa. Pedunculus 3-linearis, superne asperrima.

Forma foliorum et marginis reflexura *D. irroratæ* similis, sed cellulis basilaribus latioribus et pedunculo scabrosiore necnon statura humiliore differt.

13. D. stenophylla (*Mitt.*). Folia patentia, sicca immutata, margine recurva reflexave, cellulis ellipticis pellucidis; perichætialia ovata acuminata enervia. Theca in pedunculo superne scabro, ovalis, subelliptica, inclinata, operculo subulato, peristomii dentibus processibusque angustis basi adhærentibus papillosis.

Hab. Andes Quitenses, in montibus Tunguragua (8000 ped.), *Spruce*, n. 568; Llalla (9000 ped.), *Spruce*, n. 567.

Rami 3–4 lineas alti. Folia viridia, fulvescentia. Pedunculus 4-linearis.

14. D. tenuifolia (*Mitt.*). Folia erecto-patentia, incurva, nervo inferne in carina parva sepulto, margine anguste limbata sæpe recurva, cellulis teneris inferne elongatis oblongis, superioribus ovoideis, omnibus distincte angulatis; perichætialia ovata acuminata enervia. Theca in pedunculo superne subscabro, ovali-cylindracea, erecta, peristomii dentibus processibusque papillosis.

Hab. Andes Quitenses, Pallatanga ad arbores (6000 ped.), *Spruce*, n. 561.

Rami 2–3 lineas longi, cæspitulosi. Folia pallida, sordide viridia, vix $1\frac{1}{2}$ lineam longa. Pedunculus 3-linearis.

15. D. macrotheca (*Mitt.*). Rami graciles, elongati, subnigri, inferne radiculosi. Folia laxe inserta, patentia, flexuosa, nervo ad $\frac{3}{4}$ producto inferne carinata, margine limbo inferne angustissime reflexo, cellulis omnibus parvis, inferioribus oblongis rhombeisque, superioribus ovoideis angulatis; perichætialia lanceolata enervia. Theca in pedunculo elongato rubro superne scabro, ovali-cylindracea, inclinata, subhorizontalis.

Hab. Andes Quitenses, Chimborazo in sylvis Cinchonæ inter *Lepidopilum chloroneuron*, *Spruce*.

Rami 2 uncias longi, curvati, cum foliis lineam lati. Folia pallide viridia, vel sicca vel humida vix mutata. Pedunculus 8-linearis, gracilis, ex parte inferiore ramorum oriundus. Theca magna. Peristomium generis.

Species ab omnibus *Daltoniis* remota, *Lepidopilis* nonnullis gracilioribus similior.

Tribus XIV. ERPODIEÆ.

72. Erpodium, Brid. ii. 167.

Sect. 1. Euerpodium. *Folia compressa, distiche imbricata. Fructus in ramo brevi lateralis. Theca pedunculo brevissimo exserta.*
Species unica .... 1. *E. domingense.*

Sect. 2. Leptocalpe. *Folia tereti-imbricata. Fructus ex apicibus ramorum adscendentium oriundus. Theca immersa.*
Species unica .... 2. *E. coronatum.*

Sect. 1. *Euerpodium.*

1. E. domingense (*Brid.* ii. 167; *Schwægr.* t. 267). Caulis repens, pinnatim ramosus. Folia compressa, in caulis latere superiore distichacea, patula, imbricata, ovato-oblonga, obtusa, integerrima, enervia, cellulis rotundatis obscuris minutissime et brevissime papillosis; "perichætialia longius exserta ochreata pallida, in ramulo fertili breviter elongato terminalia, vaginantia longiora, caulinis similia. Theca in pedunculo breviter exserto carnoso flavido erecta, minuta, pallida, leptodermis, anguste oblonga, gymnostoma, ore sublacerato parum coarctato, operculo conico brevi; calyptra $\frac{2}{3}$ thecæ obtegens, sublamelloso-sulcata, glabra, pallida."—*C. Müll. Syn.* ii. 185.

Hab. Ins. Hispaniola, ad arbores, *Bertero.*

Caulis $\frac{1}{2}$ unciam longus, latitudine cum foliis lineam haud attingens. Folia pallide glauco-viridia, obscura.

Sect 2. *Leptocalpe.*

2. E. coronatum (*Hook. et Wils. in Hook. Lond. Journ.* iii. 150). Monoicum; caulis prostratus. Folia suborbiculata, apiculo brevi acuta, concava, enervia, integerrima, cellulis rotundis parvis obscuris; perichætialia caulinis duplo majora, erecta, convoluta, apicibus subrecurvis, cellulis oblongis areolata. Theca sessilis, pallide lutea, leptodermis, mollis, annulo lato persistente fusco coronata; "calyptra magna turgescenti-campanulata 16-sulcata ad plicas valde verrucosa, basi 16-lacinata."—*C. Müll. Syn.* ii. 184.

Erpodium brasiliense, *C. Müll. in Bot. Zeit.* 1845, 90.

Hab. Guayaquil, in corticem arborum vetustiorum prope fl. Daule, *Spruce*, n. 1290; Brasilia, prov. Ceará, prope Cachoeira, ad arbores, *Gardner*, n. 32.

Caules vix $\frac{1}{2}$ unciam longi, ramis subalternatis lineam longis. Folia apicalia luteo-viridia, reliqua fulvescentia.

Tribus XV. NECKEREÆ.

73. Hedwigia, Ehrh.

Musci caulibus vel ramis erectis adscendentibusve, dichotomis fasciculatim vel pinnatim ramosis. Folia brevia, lata, obscure viridia, apicibus interdum canis, e cellulis parvis densis abbreviatis areolata, enervia. Thecæ immersæ vel longiuscule exsertæ, gymnostomæ. *Habitatio* in rupibus.

Sect. 1. Euhedwigia. *Caulis dichotomus, flagellis nullis. Theca immersa, lævis. Calyptra parva, integra.*

Theca subglobosa, demum cyathiformis .... 1. *H. ciliata.*
Theca apophysi polytrichoideo-disciformi coarctata. 2. *H. nivalis.*
Theca collo angustiore longiore................ 3. *H. subrevoluta.*

Sect. 2. Hedwigidium. *Caulis subsimplex, flagelliferus. Theca immersa, plicata. Calyptra uno latere fissa.*

Species unica .... 4. *H. imberbis.*

Sect. 3. Braunia. *Caulis subsimplex pinnatusve, flagellifer. Theca exserta, elongata, lævis.*

Theca cylindracea.
  Folia ovata, acuminata .... 5. *H. secunda.*
  Folia ovalia acuta, ramulina acumine elongato filiformi flexuoso. 6. *H. cirrhifolia.*
  Folia latissime ovalia, cuspide brevi interdum albicante terminata. 7. *H. plicata.*
Theca globosa.
  Folia latissime ovali-acuminata, subpanduriformia. 8. *H. squarrulosa.*
  Folia acuminata, ovata .... 9. *H. Liebmanniana.*

Sect. 4. Rhacocarpus. *Caulis pinnatus, flagellifer. Theca exserta, brevis, plicata.*

Folia pilifera.
  Folia oblonga panduriformia................ 10. *H. Humboldtii.*
  Folia orbiculata .... 11. *H. orbiculata.*
Folia epilifera.............................. 12. *H. decalvata.*

Sect. 1. *Euhedwigia.*

Musci pulvinatim cæspitosi. Folia imbricata, apice albescenti-pilifera.

1. H. ciliata (*Ehrh.*; *Hedw. Musc. Frond.* i. t. 40). Rami infra apicem

fertilem innovantes, ramulis singulis binisve iterum iterumque dichotome divisis. Folia patentia, sicca appressa, subsecunda, ovali-acuminata, acumine sæpe albicante dorso spiculoso, concava, rarius longitudinaliter plicata, margine erecto recurvove minute crenulato, apice subspiculoso, cellulis quadratis oblongisque intus extusque papillosis granuloso-obscuris, in folii medio paucis flavis elongatis pellucidis; perichætialia longiora, interiora elliptica acuminata, marginibus ciliis flexuosis fimbriatis. Theca immersa, subglobosa, ore post operculum parvum planiusculum mamillatum delapsum valde dilatata, cyathiformis; calyptra parva, conica.

Hab. Andes Bogotenses, Boqueron prope Bogota (8600 ped.), ad lapides, *Weir*, n. 194. Andes Quitenses, Titaicun ad saxa; Pichincha locisque aliis prope Quito (10,000–12,000 ped.), *Spruce*, n. 1291, in monte Pichincha (11,000 ped.), *Spruce*, n. 1292.

Rami 1–2-unciales. Folia glauco- vel luteo-viridia, obscura, apicibus concoloribus vel plus minus albicantibus, marginibus sæpe in eodem ramo erectis vel recurvis, cellulis parietibus longitudinalibus latioribus transversalibus angustis interdum subobsoletis.

2. H. NIVALIS (*C. Müll. Syn.* ii. 165). "Foliorum cellulæ dolioliformes, minores ad latera maxime crenulatæ, valde obscuræ et scaberrimæ, basi longiores; perichætialia basi multo laxius et tenerius reticulata. Theca apophysi polytrichoideo-disciformi coarctata prædita, cæterum *H. ciliatæ* similis."

Hab. Venezuela, prov. Merida, in montibus nivosis, *Moritz*, n. 174.

"Amœne incano-lutescens. Distinctissima species."—*C. Müll. l. c.*

3. H. SUBREVOLUTA (*C. Müll. Syn.* ii. 165). "Folia cellulis dolioliformibus maxime crenulatis et obscuris valde papillosis, minoribus basi parietibus interruptis. Theca collo angustiore longiore prædita, minor, operculo conico cupulato."—*C. Müll. l. c.*

Hab. Mexico, prope Malpays de la Joya, *Schiede et Ehrenberg*.

H. ciliatæ similis. Distinctissima species.—*C. Müll. l. c.*

Sect. 2. *Hedwigidium*, Br. et Schimp. Bryol. Europ.

4. H. IMBERBIS (*Sm. Eng. Bot.* t. 2237). Rami procumbentes, flagellis teneris descendentibus. Folia patentia, sicca appressa, ovato-acuminata subpanduriformia, concava, margine revoluto apice parce denticulato, longitudinaliter subplicata, basi evidentius biplicata, cellulis ad angulos pluribus quadratis, in folii medio (basi) elongatis flavis, superioribus oblongis parietibus longitudinalibus latioribus crenulatis minutissime papillosis; perichætialia majora, ovato-lanceolata, acuminata, plicata, marginibus apicem versus minute serrulatis. Theca in pedunculo subæquilongo obovata, subglobosa, sicca pluries plicata, operculo parvo conico acuminato; calyptra parva, basi fissa.

Harrisonia rhabdocarpa, *Hampe in Linnæa*, xxxii. 148.

Hab. Andes Bogotenses, *Lindig.* Andes Quitenses, in montibus Chimborazo (10,000 ped.), *Spruce*, n. 1293, et Pichincha (10,000 ped.), et in saxis prope pagum Chambo, *Spruce*, n. 1294; in saxis secus villam Guano (9000–10,000 ped.), *Spruce*, n. 1295.

Rami 1½-uncialis. Folia flavo-viridia, fuscescentia.

Cl. Hampe, in descriptione *H. rhabdocarpæ* suæ, e thecæ plicatione distinctionem primi momenti fecit, theca autem *H. imberbis* ex Europa, Africa et Australia semper plicata quamvis in descriptionibus neglecta invenitur.

Sect. 3. *Braunia*, Br. et Schimp. Bryol. Europ.

Musci foliis imbricatis. Thecæ in pedunculo elongato exsertæ, elliptico-cylindraceæ vel globosæ, calyptris dimidiatis.

5. H. SECUNDA (*Hook. Musc. Exot.* t. 46). Folia patentia, interdum subsecunda, ovata, acuminata, concava, quater plicata, marginibus recurvis apice serrulatis, cellulis basi ad angulos pluribus oblatis, superioribus quadrato-oblongis granulosis, parietibus pellucidis; perichætialia late lanceolata, obtusiuscula, laxe convolutacea, plicata, apice serrulata. Theca in pedunculo elongato elliptico, cylindracea, operculo subulato.

Hab. Mexico, in montosis frigidis juxta Toluccam (9840 ped.), *Humboldt et Bonpland*; in monte San Felipe prope Oaxaca, *Andrieux*, n. 23; in saxis prope Malpays de la Joya, *Schiede*; in locis aliis, *Ehrenberg*, *Coulter.*

Rami 2-unciales, ramulis 3–4-linearibus. Folia luteo-viridia, fuscescentia.

6. H. CIRRHIFOLIA (*Wils. MS.*). Folia erecto-patentia, imbricata, ovali-acuta, concava, quater plicata, marginibus reflexis apice serrulatis denticulatisve, cellulis basi ad angulos paucis subquadratis, in ventre parvo impressis, in folii medio elongatis papillosis, superioribus ovoideis, parietibus longitudinalibus latis, totaque superficie minute papillosa; ramulina elliptico-lanceolata, acumine elongato filiformi flexuoso; perichætialia elongata, appressa, lanceolata, acuta, margine recurvo. Theca in pedunculo elongato, elliptica.

Hab. Andes Quitenses, *Jameson.*

Rami 4-unciales, ramis pluribus ½-uncialibus patentibus divergentibus recurvisque. Folia luteo-fusca, seniora fuscescentia.

Habitu *H. secundæ*, sed major, foliis siccis laxe imbricatis, acumine longiore, forma iis *H. attenuatæ* Indiæ orientalis similior.

7. H. PLICATA (*Mitt.*). Folia erecto-patentia, imbricata, latissime ovalia, concava, cuspide brevi interdum albescente terminata, quater plicata, margine late reflexo apice serrulato, cellulis basi ad angulos pluribus quadratis, in folii medio elongatis pluripapillatis, superioribus quadrato-

oblongis, parietibus pellucidis; ramulina ovata, sensim in acumen flexuosum serrulatum producta; perichætialia elongata, laxe convolutacea, oblongo-lanceolata, apice obtusa acuminata, marginibus reflexis. Theca in pedunculo elongato, elliptica, operculo subulato.

Hab. Andes Quitenses, *Jameson.* In Bolivia, *Bridges in Herb. Hooker.*

Rami 2–3-unciales, ramosi, ramulis sæpe flagelliferis. Folia luteo-viridia, fuscescentia, plicis satis conspicuis. Habitus *H. secundæ.*

8. H. SQUARRULOSA (*Hampe, Ic. Musc.* 19). Rami ramulis pluribus attenuatis curvatis apice flagellifero-productis. Folia patentia, latissime ovali-acuminata, subpanduriformia, concava, quinqueplicata, margine erecto reflexove minutissime crenulato, cellulis basi ad angulos rotundis oblatisque, in folii medio elongatis flavidis, superioribus ovoideis granulosis, parietibus crenulatis fere lævibus. Theca in pedunculo brevi, globosa, lævis, operculo depresso brevi apiculato.

Hab. Mexico, *Herb. Hampe*; Guatemala, *Herb. C. Müller.*

Rami 2–3-unciales, valde ramulosi. Folia viridia, rufescentia fuscaque.

9. H. LIEBMANNIANA (*Schimp.* Braunia; *C. Müll. Syn.* ii. 668). Hermaphrodita, antheridiis et paraphysibus copiosissimis, archegoniis perpaucis. Folia imbricata, longitudinaliter plicata, acuminato-ovata. Theca in pedunculo abbreviato siccitate dextrorsum torto, globosa, deoperculata truncata.—*C. Müll. l. c.*

Hab. Mexico, Pico de Orizaba, *Liebmann.*

Sect. 4. *Rhacocarpus*, Lindb.

Musci caulibus sæpe elongatis, ramis breviusculis eleganter pinnatim ramosis.

10. H. HUMBOLDTII (*Hook. Musc. Exot.* t. 137). Caules ramis brevibus curvatis eleganter pinnatim ramosi, apicibus foliis imbricatis cuspidatis. Folia ramea oblonga, panduriformia, marginibus e basi ad medium reflexis, ubique remote serrulatis, apice in pilum elongatum flexuosum nitidum producta, cellulis basi ad angulos pluribus quadratis nodulosis infuscatis ventricoso-impressis, superioribus elongatis subsinuosis, parietibus superficieque tota minutissime papillosis obscuris, ad margines seriebus circiter 4 lævibus inanibus limbum nitentem formantibus; perichætialia longiora, arcte convolutacea, interna fusca. Theca in pedunculo elongato rubro, globosa, plicata, operculo curvirostrato.

Hab. Ins. Guadelupe; S. Christophori, *Walwyn.* Andes Novo-Granatenses, *Humboldt et Bonplond.* Andes Chilenses, *Lechler,* n. 802. Fuegia, Hermit Island, *J. D. Hooker.*

11. H. ORBICULATA (*Mitt.*). Folia in ramorum apicibus cuspidato-imbricata, ramea imbricata erecta orbiculata, apice in pilum flexuosum nitidum producta, basi contracta, angulis decurrentibus, cellulis subquadratis ventricoso-impressis, marginibus superioribus minute remote serru-

latis subintegerrimisve, basi tantum reflexis, cellulis in folii medio ellipticis, parietibus superficieque tota minutissime punctulatis obscuris, seriebus circiter tribus marginalibus lævibus nitentibus. Flos masculus gemmiformis in ramorum brevium apicibus; antheridia sub 20, paraphysibus æquilongis.

Hab. Andes Chilenses, in Cordillera ad San Gavan, *Lechler*, n. 2252, etiam inter n. 3111 et 3114.

Rami 4-unciales. Folia pallida straminea. Habitu *H. Humboldtii* sed paululum gracilior.

12. H. DECALVATA (*Mitt.*). Folia in ramorum apicibus cuspidato-imbricata, ramea patentia oblonga panduriformia, apice acuta, basi auriculis dilatatis ventricoso-impressis, cellulis grossis obscuris moniliformibus fuscis, marginibus vix recurvis, supra basin subserrulatis, superne integerrimis incurvis, cellulis elongatis parietibusque ubique minutissime punctatis, marginalibus seriebus circiter 4 lævibus infuscatis nitentibus; perichætialia longiora, arcte convolutacea, fusca. Theca in pedunculo elongato globosa, plicata, operculo curvirostro.

Hab. Brasilia.

Rami 3-unciales, decrescenti-pinnati. Pedunculus 1½-uncialis.

H. Humboldtii habitu statura coloreque similis, sed foliis epiliferis apicibus integerrimis et marginibus vix recurvis species satis diversa videtur.

74. LEUCODON, Schwægr.

Musci caulibus late repentibus, ramos simplices ramososve erectos adscendentesve flagelliferos foventibus. Folia undique æqualia, imbricata vel subsecunda, enervia vel nervo singulo percursa, cellulis brevibus densis areolata; perichætialia longe convolutacea. Thecæ oblongæ, peristomio simplici externo, calyptra cucullata. *Habitatio* ad arborum corticem.

Folia enervia.
  Folia ovato-oblongo-lanceolata, acuminata. Theca e perichætio haud exserta .... 1. *L. cryptotheca.*
  Folia ovato-lanceolata, acuminata. Theca in pedunculo brevi. 2. *L. curvirostris.*
Folia nervata.
  Folia ovali-acuminata, perichætialia brevia ...... 3. *L. geniculatus.*
  Folia ovata .... 4. *L. coronatus.*
  Folia late ovata, acuminata, perichætialia longius exserta. 5. *L. domingensis.*

1. L. CRYPTOTHECA (*Hampe, Ic. Musc.* t. 17). Folia dense imbricata, concava, ovato-oblongo-lanceolata, acuminata, quinquies plicata, e medio ad apicem usque tenuissime denticulata. Theca ovata, subsessilis, pe-

richætio prominente occulta, operculo brevirostrato, peristomii dentibus brevibus lanceolatis obtusis hinc inde fissis.—*Hampe, l. c.*

Hab. Mexico, *Ehrenberg.*

Rami 2-unciales, ramosi. Folia luteo-viridia.

2. L. CURVIROSTRIS (*Hampe, Ic. Musc.* t. 16). Folia laxe imbricata, secunda, ovato-lanceolata, acuminata, concava, plicata, margine plano apice subserrulato, cellulis ad angulos pluribus parvis rotundis, superioribus ellipticis; perichætialia elongata, arcte convolutacea, acuta. Theca in pedunculo brevi, breviter ovalis, operculo curvirostro, peristomii "dentibus externis latius lanceolatis robustioribus perforatis, internis membrana brevi truncata."—*Hampe, l. c.*

Hab. Mexico, *Ehrenberg*, *Jurgensen*, n. 913.

Rami 2–3-unciales, ramosi. Folia viridia stramineaque, plus minus secunda. Pedunculus 2-linearis. Theca magna.

3. L. GENICULATUS (*Mitt.*). Rami decumbentes, curvati, parce divisi. Folia laxe imbricata, patentia, ovali-acuminata, concava, plicata, marginibus recurvis apice serrulatis, nervo tenui medio evanido, cellulis basi ad angulos pluribus parvis oblatis obscuriusculis, reliquis elongatis angustis; perichætialia caulina haud excedentia, ovato-acuminata. Theca in pedunculo brevi, ovali-cylindracea, operculo conico acuminato, peristomii parvi dentibus teneris brevibus.

Hab. Ins. Jamaica, *Wilds.* Fl. Amazon, Tauaú prope Pará, ramicola, *Spruce,* n. 1516. Andes Peruvianæ, in monte Guayrapurina, *Spruce.* Brasilia, Rio de Janeiro, *Milne.*

Statura adspectuque *L. trichomitrio* similis. Rami subsimplices, geniculati, curvati. Folia subnitentia, cellulis illis *L. trichomitrii* longioribus angustioribusque. Pedunculus 2½-linearis. Theca parva, angusta.

4. L. CORONATUS (*Mont. in D'Orbigny, Voy. Crypt.* 108). Rami subsimplices. Folia densa, e basi erectiore patula, ovata, concava, nervo infra medium evanido, marginibus recurvis integerrimis, cellulis basi ad angulos oblatis obscurioribus, reliquis ovoideis lævibus; perichætialia erecta, ovato-lanceolata, enervia, apicibus ad basin thecæ cylindraceæ attingentibus. Operculum "conicum, breve incurve acuminatum."

Hab. Corientes, prope Iribucua, ad arbores, *D'Orbigny.*

E frustulo parvo tantum viso, species *L. Ohioensi* valde affinis videtur.

5. L. DOMINGENSIS (*Spreng.*; *Brid.* ii. 259). Rami ramulis patentibus pinnati, stipitati. Folia patentia, late ovata, acuminata, concava, nervo tenui percurrente, marginibus erectis apice subserrulatis, cellulis anguste ellipticis ad angulos pluribus rotundatis transverse oblongisque; "perichætia longius exserta, angustissima pallida, foliis longe lanceolato-acuminatis convolutis longius reticulatis. Theca in pedunculo longiusculo flavido tenero erecta, ovata, fuscidula."—*C. Müll. Syn.* ii. 95.

Hab. Ins. Barbadoes, *De Schach in Herb. Hooker.*; Cuba, ex *Mon-*

tagne, Wright, n. 68; Trinidad, *Black*; San Domingo, *Bertero*; Venezuela, ex *C. Müller.* Andes Peruvianæ, Tarapoto (1500 ped.), *Spruce*, n. 1179. Brasilia, in prov. S. Paulo prope Constitutao, *Weir*, n. 44 *a*.

Rami 1–2 uncias alti, plus minus pinnatim ramosi, sicci incurvati. Folia argenteo-viridia, nitida. Adsunt sæpe in axillis foliorum ramorum apices versus ramuli angusti filiformes microphylli glomerati.

75. CRYPHÆA, Brid. ii.

Musci caulibus late repentibus, ramos fructiferos liberos adscendentes dichotomos pinnatimve divisos prodentibus. Folia undique æqualia, uninervia, cellulis brevibus parvis obscuris densis areolata; perichætialia majora. Peristomii dentes pallidi, interni processus angusti in membrana brevissima impositi, interdum deficientes; calyptra parva, integra. *Habitatio* ad corticem arborum.

Sect. 1. EUCRYPHÆA. *Rami fructiferi pinnatim ramosi, ramulo fertili abbreviato.*

Folia integerrima subintegerrimave.
  Folia late ovata, acuminata, acumine angusto .. 1. *C. apiculata.*
  Folia late ovali-ovata, acuta, minutissime serrulata subintegerrimave.
    2. *C. fasciculosa.*
  Folia late orbiculari-ovalia, acuminata, acumine plus minus elongato flexuoso .... 3. *C. latifolia.*
  Folia late ovata, breviter acuminata .... 4. *C. intermedia.*
  Folia ovalia, acuminata, apice minutissime serrulata.
    5. *C. ramosa.*
  Folia ovato-lanceolata, nervo excurrente ...... 6. *C. pilifera.*
Folia apice serrulata.
  Folia late ovali-ovata, acumine brevi latiusculo sæpe curvato.
    7. *C. patens.*
  Folia iis *C. consimilis* robustiora, parce minute dentata.
    8. *C. Schiedeana.*
  Folia oblongo-ovata, acumine brevi .... 9. *C. brevipila.*
  Folia ovato-lanceolata, sensim in acumen elongatum angustum producta .... 10. *C. Jamesoni.*
  Folia anguste ovata, acuminata .... 11. *C. decurrens.*
  Folia ovalia, acuminata........................ 12. *C. filiformis.*
  Folio ovata, anguste acuminata .... 13. *C. tenella.*
  Folia anguste lanceolata, breviter stricte acuminata.
    14. *C. consimilis.*

Sect. 2. ACROCRYPHÆA. *Rami fructiferi fasciculatim ramosi, ramulo fertili elongato.*

Folia orbiculari-ovata, acuminata, margine erecta.. 15. *C. julacea.*

Folia ovata, acuminata, margine recurva, apice subserrulata. 16. *C. Gardneri.*

Folia orbiculari-ovalia, acuminata, margine reflexa recurvave integerrima. 17. *C. rubricaulis.*

Sect. 3. PHILUDORA. *Rami fructiferi pinnati, ramis distichis, ramulo fertili elongato.*

Folia ovato-lanceolata, apice acuta subacutata serrulataque. 18. *C. Gorveana.*

Folia ovato-lanceolata, apice obtusiuscula integerrima. 19. *C. cuspidata.*

Sect. 4. DENDROPOGON. *Rami fructiferi elongati, penduli, ramulis undique dispositis apice fertilibus.*

Species unica.............................. 20. *C. rufescens.*

Sect. 1. *Eucryphæa.*

1. C. APICULATA (*Mitt.*). Folia concava, marginibus e basi ad medium usque revolutis integerrimis, nervo ultra medium evanido, cellulis basi ad margines pluribus parvis oblatis obscuriusculis, superioribus ovoideis; perichætialia exteriora et interna elliptica, subspathulata, acuminata, nervo longe excurrente dentato. Theca immersa, ovalis, sicca plicata, operculo conico acuminato, peristomii dentibus elongatis angustis pallidis papillosis obscuris; calyptra apice scabra.

Hab. America centralis, Gorgona, *Seemann.*

Rami 1–1½-unciales, inordinate ramosi, remote subpinnati. Folia sicca julacea.

2. C. FASCICULOSA (*Mitt.*). Rami superne divisi, ramulis gracilioribus patentibus divergentibusque ramulosi. Folia patentia, margine a basi ad medium et ultra revoluto, inde ad apicem planiusculo, nervo ultra medium evanido, cellulis basi ad margines pluribus rotundis oblatisque, superioribus ovoideis; perichætialia interiora late obovata, enervia, arcte convolutacea, subito in acumen elongatum piliforme producta. Theca emergens, ovalis, operculo conico acuminato, peristomii dentibus pallidis elongatis processibusque æquilongis papillosis; calyptra apice scabra.

Hab. Andes Quitenses, in monte Titaicun (11,000 ped.), *Spruce*, n. 1286.

Rami 1½-unciales, ramulis ½-uncialibus. Folia sordide viridia.

Habitu *C. heteromalli* Europæ subsimilis, sed ramuli magis fasciculati.

3. C. LATIFOLIA (*Mitt.*). Folia dense inserta, patula, concava, nervo ultra medium evanido, marginibus fere ad apicem reflexis integerrimis, cellulis basi ad angulos pluribus oblatis obliquisque, superioribus ovoideis; perichætialia externa elliptica, interna obovato-oblonga, subito in acumen elongatum angustum producta, nervo ex apice breviter descendente.

Theca ovalis, operculo conico acuminato, peristomii interni processibus rugulosis quam dentes externi brevioribus; calyptra scabra.

Hab. Andes Quitenses, ad fruticum ramulos, in monte Titaicun (10,500 ped.), *Spruce*, n. 1280; Quito, *Jameson*.

Rami 2–3-unciales, inordinatim pinnati, nonnulli subsimplices. Folia luteo-viridia, fuscescentia.

4. C. INTERMEDIA (*C. Müll. in Linnæa*, xix. 212, et *Syn.* ii. 171. Pilotrichum). Monoica; caulis parce ramosus crassiusculus, ramis brevibus rigidis recurvis. Folia caulina humore erecto-patula, cochleariformia, margine usque ad acumen revoluto, basi decurrente, glabra, nervo tenui supra medium evanido; perichætialia late et maxime convoluta, in acumen longum glabrum producta, enervia v. apice solo nervosa, infima basi laxe superne conflate et badio-reticulata. Theca immersa, oblonga, æqualis, late annulata, majuscula, breviter conico-operculata, calyptra lævi, peristomii dentes externi latiuscule lanceolato-subulati, basi glabri rufescenti-albidi integri, apicem versus rugulosi, interni filiformes, glabri, albi, dimidio breviores.—*C. Müll. l. c.*

Hab. Mexico, *Leibold.*

5. C. RAMOSA (*Wils.*; *Mitt. in Hook. Kew Journ.* iii.). Folia concava, marginibus recurvis, nervo ultra medium evanido, cellulis basi ad margines oblatis, superioribus ovoideis; perichætialia interiora late ovalia, acumine elongato angusto, nervo ex apice fere ad medium descendente. Theca ovalis, operculo conico, acumine obliquo, peristomii interni processibus quam dentes exterioris parum brevioribus nodulosis papillosis; calyptra lævis.

Hab. Andes Quitenses, Quito, *Jameson*; in montibus Guayrapata (9000 ped.), *Spruce*, n. 1284 *a*; Carguairazo (11,000 ped.), *Spruce*, n. 1284 *b*; Pichincha (10,000 ped.), *Spruce*, n. 1284 *c*.

Rami 2–3-unciales, ramulis pluribus divaricatis attenuatis pinnati. Folia luteo-viridia.

6. C. PILIFERA (*Mitt.*). Folia imbricata, patentia, in acumen angustum piliforme producta, marginibus inferne anguste recurvis erectisve, apice minutissime serrulatis, cellulis basi ad margines parvis rotundis, superioribus ovoideis; perichætialia lata, oblongo-obovata, retusa, subito in acumen angustum elongatum flexuosum attenuata, nervo breviter descendente. Theca ovalis, operculo conico brevi acuminato, peristomii interni processibus dentibus exterioris tertia brevioribus.

Hab. Andes Quitenses, in montibus Guayrapata (9000 ped.), *Spruce*, n. 1287, et Tunguragua (6000–8000 ped.), *Spruce*, n. 1288. Andes Bogotenses in sylvis prope Bogota ad arborum ramos vulgaris (7000 ped.), *Weir*, n. 183.

Rami 3–4-unciales, flexuosi, ramulis tenerioribus irregularibus pinnatim ramosi, ramulis longioribus sæpe fructiferis.

Ex habitu *C. Jamesoni* similis, sed folia densiora latiora, acumine breviore, et marginibus ut plurimum magis recurvis.

7. C. PATENS (*Hornsch.*; *C. Müll. Syn.* ii. 171). Folia patentia, subsquarrosa, concava, nervo sub apice evanido, marginibus recurvis apice dentatis, cellulis basi ad margines minoribus, omnibus parvis rotundatis; perichætialia obovata subspathulata, nervo e paulo supra basin longe excurrente dentato. Theca ovalis, peristomii dentibus processibusque papillosis obscuris.

Hab. Mexico, *Deppe ex Hornschuch.* Andes Quitenses, Quito, *Jameson*; prope Baños ad ramulos secus riv. Vascun (6500 ped.), *Spruce*, n. 1282.

Rami 2–3-unciales, ramulis pluribus pinnatim ramosi. Folia dense inserta.

8. C. SCHIEDEANA (*C. Müll. Syn.* ii. 167, Pilotrichum). Monoica; caulis elongatus, tenerrimus, valde ramosus, eo *C. consimilis* parum robustior. Folia parum robustiora, apice minute dentata, nervo pallido ante apicem evanido; perichætialia thecam arcte includentia et superantia, late convolutacea sensim acuminata, apice vix v. parum emarginata, longe stricte cuspidata, tenerrima, pellucida. Theca immersa, breviter conico-operculata; calyptra tenerrima lævis.—*C. Müll. l. c.*

C. filiformis, *Hornsch. in Musc. Mexic.*; *Deppe et Schiede.*

Hab. Mexico, Xalapa, *Deppe et Schiede.*

9. C. BREVIPILA (*Mitt.*). Folia patentia, laxa, nervo apicem versus flexuoso percurrente subcarinata, marginibus recurvis apice parce denticulatis, cellulis basi ad angulos pluribus minoribus subrotundis subobscuris, reliquis ovali-rotundis parvis; perichætialia arcte convoluta, externa elliptica acuminata, interna elongate oblonga obtusa, acumine piliformi brevi, nervo vix infra basin acuminis cernendo. Theca cylindracea, operculo conico acuminato, peristomii dentibus processibusque æquilongis dense papillosis; calyptra lævis.

Hab. Andes Quitenses, in monte Chimborazo (4000 ped.), *Spruce*, n. 1289 *b*.

Rami 2-unciales, curvati, ramulis inferne paucis pinnatim ramosi simplicesve. Folia fuscescentia. Fructus copiosus. Folia perichætialia apiculo piliformi apicem calyptræ non excedente.

10. C. JAMESONI (*Tayl. in Hook. Lond. Journ.* vii. 192). Folia laxa patentia, nervo excurrente, marginibus basi late recurvis, in folii medio uno latere tantum anguste recurvo, apice serrulato, cellulis basi ad margines parvis quadrato-rotundis, superioribus ovoideis; perichætialia interiora lata, obovata, apice subretusa, in acumen capillaceum elongatum remote denticulatum producta, nervo breviter ex apice in folium descendente. Theca ovalis, leptoderma, pallida, ore rubro, operculo brevi conico acuminato, peristomii dentibus pallidis processibusque æquilongis papillosis; calyptra lævis.

Hab. Andes Quitenses, Quito, *Jameson*; prope Baños ad ramulos (6000 ped.), *Spruce*, n. 1281.

11. C. DECURRENS (*C. Müll. Syn.* ii. 172, Pilotrichum). Monoica; caulis elongatus ramosissimus, ramis alternis v. oppositis tenuissimis elongatis flexuosis flaccidis attenuatis flagelliformibus remote pinnatus, ferrugineus, superne viridescens, ditissime lateraliter fructificans. Folia caulina appressa, humore erecto-patula, basi longe et angustissime decurrentia, profunde concava, acumine graciliter latiusculo irregulari dentato, margine usque ad acumen revoluto, nervo ultra medium evanescente, cellulis minute rotundatis; perichætialia e basi angustiore late convoluta, apicem versus dilatata, longissime flexuoso-acuminata, nervo nullo vel ex acumine ad medium folii descendente, elongate tenere reticulata, plus minus plicata, pellucida. Theca immersa, ovata, haud plicata, late annulata, operculo conico brevi recto; peristomii dentes exteriores lanceolato-subulati, breviusculi, latiusculi, inferne fusciduli glabri, superne rugulosi subpertusi; interiores dimidio breviores, maxime rugulosi, subalbidi, fragiles, irregulares; calyptra lævis.—*C. Müll. l. c.*

Hab. Mexico, *Ehrenberg*.

12. C. FILIFORMIS (*Sw.*; *Hedw. Musc. Frond.* iii. t. 16). Folia patentia, concava, margine erecto apice minute serrulato, nervo ultra medium evanido, cellulis basi pluribus oblatis, superioribus ovoideis; perichætialia superne dilatata, spathulata, in acumen elongatum dentatum subulato-acuminata. Theca ovato-cylindracea, operculo conico brevi acuto, peristomii dentibus processibusque æquilongis nodulosis dense papillosis; calyptra scabra.

Hab. India occidentalis, *Swartz*, et ex *Herb. Brown.*

Rami graciles, inordinatim ramosi. Folia viridia, rufescentia. Fructus ubique ad ramorum latera sparsi.

Habitus, e speciminibus perpaucis hucusque visis, inter species pinnatas fructu laterali et illas quibus fructus in ramulis terminalis medius.

13. C. TENELLA (*Mitt.*). Folia laxe imbricata, patentia, concava, nervo sub apice evanido, marginibus planis apice minute serrulatis, cellulis basi ad margines suboblatis, superioribus rotundis; perichætialia interna late obovata, arcte convolutacea, subito in acumen elongatum subulatum producta, basi enervia. Theca ovalis, leptoderma, operculo subulato, peristomii dentibus processibusque elongatis angustis pallidis papillosis; calyptra scabra.

Hab. Chili, Arique, *Lechler*, n. 654.

Rami 1-unciales, gracillimi, ramulis 3-linearibus pinnatim ramosis. Folia sicca appressa. Theca foliis perichætialibus arcte convoluta, apicibus ad calyptræ apicem attingentibus.

14. C. CONSIMILIS (*Mont. in Ann. Sc. Nat.* ser. 3. iv. 100). Monoica; caulis tenerrimus, ramis tenuissimis brevibus sæpe fasciculatim divisis

subpinnatus, humilis. Folia caulina appressa, vix conspicua, humore parum patula, minuta, profunde carinato-concava, margine inferne paulisper revoluto, integerrimo, nervo rufescente tenui subexcurrente, cellulis minutis opacis sublævibus; perichætialia pauca, thecæ arcte appressa, brevissime vaginantia, apice profundissime in partes duas aliformes subrotundatas excisa, nervo tenui in cuspidem brevem segmenta vix superantem excedente, tenerrima, pellucida. Theca emersa, anguste cylindraceo-oblonga, leptodermis, æqualis, late annulata, operculo eximie conico; peristomii dentes exteriores elongati, anguste lanceolato-subulati, tenues, ubique rugulosi lutei, interiores angustissime subulati, æquilongi, similes, rugulosi.—*C. Müll. Syn.* ii. 166.

Hab. Chili meridionalis, in cortice arborum, *C. Gay.*

Sect. 2. *Acrocryphæa*, Hook. et Wils.

15. C. JULACEA (*Hornsch. in Mart. Fl. Bras. Musc.* 7, t. 1. f. 1, Grimmia). Folia imbricata, patentia, concava, apice minute serrulata, nervo ultra medium abrupto, cellulis basi ad margines pluribus parvis oblatis, superioribus oblongis; perichætialia externa elongata, elliptica, interna oblonga, obtusa, nervo excurrente elongato. Theca sessilis, ovata, sicca plicata, operculo conico acuminato, peristomii dentibus elongatis angustis; calyptra superne scabra.

Hab. Brasilia, ex *Herb. Sowerby.*

Rami unciales, fasciculato-ramosi. Folia sicca julaceo-appressa, marginibus ubique erectis.

16. C. GARDNERI (*Mitt. in Journ. Linn. Soc.* 1859). Folia patula, subsquarrosa, concava, nervo ad ¾ evanido, cellulis basi ad margines pluribus oblatis rotundisque, superioribus oblongis; perichætialia externa longiora, ovata ellipticaque, acuminata, marginibus recurvis undulatis, interna oblonga teneriora obtusa, nervo longe excurrente. Theca ovalis, sessilis, leptoderma, operculo conico acuminato, peristomii dentibus pallidis punctulatis; calyptra apice scabra.

Hab. Ins. Cuba, *Wright*, n. 67. Andes Bogotenses, in descensu a Paramo ad Choachi (6000 ped.), ad arbores, *Weir*, n. 177. Brasilia, Sierra dos Orgaos, *Gardner*; Rio de Janeiro, *Heward*; in "Campo," prope Constitutao (2000 ped.), ad arbores depauperatas, *Weir*, n. 44.

Rami 1–1½-unciales, fasciculatim subpinnatim ramosi. Folia sicca julaceo-appressa, omnia marginibus recurvis. Theca post exsiccationem plicata. *C. julaceæ* simillima.

17. C. RUBRICAULIS (*Mitt.*). Folia patula, subsquarrosa, concava, marginibus fere ad apicem reflexis recurvisve, nervo ultra medium evanido, cellulis basi ad margines pluribus oblatis, superioribus omnibus minutis ovoideis; perichætialia externa spathulata, subulato-acuminata, interna obovata, obtusa retusave, vaginantia, nervo longe excurrente. Theca

sessilis, ovata, leptoderma, operculo conico acuminato, peristomii dentibus elongatis subulatis tenerrime papillosis obscuris; calyptra apice scabra.

Hab. Andes Quitenses, prope Baños in ramulis, Lucmas, in valle Alausi (6000 ped.), *Spruce*, n. 1285.

Rami 1–1½-unciales, pinnatim ramosi, ramulis omnibus apice fertilibus.

Habitu *C. julaceæ*, folia autem latiora, margine fere ad apicem usque recurva, cellulis minoribus, perichætialia latiora vaginantia.

Sect. 3. *Philudora.*

18. C. GORVEANA (*Mont. in Ann. Sc. Nat.* ser. 3. iv. 99; *et in Gay Hist. Chili Bot. Crypt.* t. 5. f. 3). Folia imbricata, margine inferne plano recurvo, nervo percurrente, dorso sub apice dentato, cellulis basi ad margines parvis quadratis obscuris, superioribus in folii medio ovoideis, ad margines seriebus pluribus elongatarum ellipticarumque limbum latum pallidiorem formantibus; perichætialia elliptica, subulata, apice serrulata. Theca ovalis, sicca corrugata, operculo conico acuminato, peristomii dentibus elongatis subulatis trabeculatis, interni processibus parum brevioribus angustis ad basin liberis.

Hab. Chili, *C. Gay* ex *Herb. Montagne*, *Lechler*, n. 474.

Rami 3–6-unciales, pinnatim ramosi. Folia sordide viridia, interdum fuscescentia.

19. C. CUSPIDATA (*Sulliv. in Un. St. Expl. Exped.* t. 23 A). Folia imbricata, nervo percurrente, cellulis parvis rotundis; perichætialia e basi ovali-elliptica subulata, integerrima. Theca ovalis, operculo conico acuminato, peristomii externi dentibus subulatis elongatis intus trabeculatis, interni processibus paulo longioribus angustis ad basin liberis.

Hab. Chili australis, Colchaque, *Herb. Hooker.*

Rami 2-unciales.

C. Gorveanæ similis, sed minor et foliorum cellulæ tertia minores.

Sect. 4. *Dendropogon*, Schimp.

20. C. RUFESCENS (*Schimp. in Bot. Zeit.* 1843, 377, t. 1, Dendropogon). Rami graciles, elongati, ramulis divaricatis pinnati. Folia laxe inserta, patentia, lanceolato-subulata, basi subbiplicata, angulis decurrentibus, nervo percurrente, marginibus recurvis integerrimis, cellulis basi ad angulos pluribus rotundis, reliquis ovoideis; perichætialia exteriora elliptica, nervo longe excurrente, apice serrulato, interiora late ovalia, superne serrulata, in acumen plus minus elongatum producta, nervo brevi subobsoleto. Theca immersa, subgloboso-ovalis, operculo conico acuto, peristomii externi dentibus pallidis sublævibus, interni processibus rugulosis fragilibus.

Hab. Mexico, *Ehrenberg*, *Karwinski.*

Rami pedales, flexuosi, ramulis uncialibus curvatis. Folia ubique rufa nigrescentia.

Habitu *Meteorii.*

76. PRIONODON, C. Müll. in Bot. Zeit. 1844, 129.

Musci caulibus primariis repentibus, ramis erectis adscendentibusve elatis robustis simplicibus dichotome vel frondiformi-pinnatim divisis. Folia undique æqualia vel compressa, uninervia, cellulis breviusculis parvis firmis. Thecæ magnæ, operculis subulato-acuminatis rigidis, peristomii dentibus elongatis, interni processibus angustis liberis vel apice cohærentibus, calyptris integris vel sæpius uno latere fissis. Flores dioici. *Habitatio* in arboribus.

Rami pinnatim divisi.	
Folia a basi ovata sensim subulato-angustata, sublanceolata.	1. *P. luteovirens.*
Folia late ovato-lanceolata, acuminata	2. *P. pinnatus.*
Folia oblongo-lanceolata, acuminata	3. *P. lycopodioides.*
Rami subsimplices vel superne fasciculatim ramosi.	
Folia a basi ovata sensim subulato-angustata, sublanceolata.	4. *P. densus.*
Folia e basi late oblonga complicato-lanceolata, acuminata.	5. *P. flagellaris.*
Folia a basi late oblongo-ovata lanceolata, elongata, canaliculato-subulata	6. *P. fusco-lutescens.*
Folia ovato-lanceolata, apice acuminata	7. *P. læviusculus.*
Folia ovato-lanceolata	8. *P. dichotomus.*
Folia a basi ovali sensim longe angustata	9. *P. divaricatus.*
Folia lata, subovato-lanceolata	10. *P. undulatus.*
Folia a basi brevi angusta lato-lanceolata, longe acuminata.	11. *P. Muelleri.*

1. P. LUTEOVIRENS (*Tayl. in Hook. Lond. Journ.* v. 59; *Wils. l. c.* 452, t. 16 N, Neckera). Folia subcompressa, e basi subovata sensim subulato-lanceolata, longitudinaliter plicata, nervo sub apice evanido, marginibus denticulatis, cellulis basi ad margines pluribus parvis rotundis, interioribus elongatis, superioribus omnibus parvis ellipticis postice parce papillosis; perichætialia brevia, erecta, ovata, acumine brevi nervo tenui obsoletove, tenuiter crenulata. Theca ovalis, exserta, operculo subulato, peristomii dentibus pallidis processibusque æquilongis, interdum inter se anastomosantibus, nodosis punctulatis, in membranam brevem exsertis; calyptra dimidiata.

Hab. Andes Quitenses, Quito, *Jameson,* in monte Tunguragua, *Spruce.*

Rami 4–10-unciales, inferne simplices, deinde subpinnati, vel in frondem decrescenti-pinnatim ramulosi. Folia viridia lutea demum fuscescentia. Theca satis parva.

2. P. PINNATUS (*Hampe in Ann. Sc. Nat.* ser. 5. iv. 355). Caulis adscendens erectus, a basi attenuata microphyllina superne pinnato-

ramosus, ramis distichis elongatis æqualibus, parce ramosis, vel attenuato-elongatis securiformibus. Folia caulina patentia, ramorum erecto-patentia, omnia dense imbricata læviter plicata, humida squarroso-patentia, e basi paulo angustiore parce plicata, late ovato-lanceolata, acuminata, apice remote sinuato-dentata, nervo solido lutescente percursa, in acumine integerrimo evanescente, cellulis lateralibus dense aggregatis angulato-rotundis hyalinis, intermediis aureis elliptico-linearibus, cæteris ellipticis, versus apicem folii abbreviatis in acumine laxioribus ovalibus, tota flavescenti-diaphana. Theca breviseta, magis exserta, oblongo-ovata, celluloso-punctata, rubra, peristomii dentibus exterioribus flavidis, internis cruribus albidis.—*Hampe, l. c.*

Hab. Andes Bogotenses, in sylvis Manzanos (2600 metr.), *Lindig*, n. 2118.

P. denso proximus, sed colore et structura nervi differt.—*Hampe, l. c.*

3. P. LYCOPODIOIDES (*Hampe in Linnæa*, xxxii. 150). Rami elongati, inferne simplices foliis parvis appressis, superne ramulosi, ramulis inæqualibus distichis pinnati vel flabellati. Folia compressa, oblongo-lanceolata, acuminata, triplicata, paulo infra apicem subexcavata, margine plana a medio ad apicem usque serrata, nervo infra apicem desinente, superne flexuosa, cellulis basilaribus ad latera minutis rotundis, interioribus oblongis ellipticisque, superioribus omnibus rotundatis; perichætialia erecta, convoluta, ovata, abrupte apiculata, margine crenulata, nervo angustissimo percursa. Pedunculus ultra perichætium paululum productus. Theca oblongo-ovalis, subinclinata, operculo conico-rostrato; peristomii dentes pallidi, interni processibus punctulatis interdum hic illic anastomosantibus, inferne parum pertusis.

Hylomnium frondiforme, *Spruce, Cat.*

Hab. Andes Bogotenses, in sylvis Manzanos ad truncos (2600 metr.), *Lindig*, in montibus supra Pacho (6500 ped.), ad caudices filicum longe lateque repens, et ramos more *Trichomanum* ad instar vestiens, rarissime fertilis, *Weir*, n. 136. Andes Quitenses, in monte Tunguragua, *Spruce*, n. 1307, planta mascula.

Rami 4–6-unciales, ramis longioribus biuncialibus, cum foliis 1½ lineam latis. Folia glauco-viridia, 2-linearia, sicca parum mutata. Theca lineam longa, fusca.

Species pulchra, *Selaginellis* nonnullis primo visu similis.

4. P. DENSUS (*Sw. Prodr. Fl. Ind. Occ.* 141; *Hedw. Sp. Musc.* t. 74, Hypnum). Folia e basi brevi erectiore patentia, stricta, interdum undulata, longitudinaliter plicata, e basi ovata sensim lanceolato-subulata, nervo sub apice evanido, marginibus denticulatis, cellulis basi ad margines pluribus parvis rotundis, interioribus elongatis, superioribus ovoideis rotundisque minutis, postice parce papillosis.

Neckera densa, *Wils. in Hook. Lond. Journ.* vi. t. 11.

Hab. Ins. Jamaica, *Swartz*, *Wilds*, *Wilson*. Mexico, *Deppe et Schiede*,

n. 1085, *Ehrenberg*; Venezuela, Tovar, *Moritz*. Andes Quitenses, ad arbores in monte Tunguragua (7500 ped.), *Spruce*, n. 1296; in valle Pangor (8000 ped.), *Spruce*, n. 1300.

Rami 4–8-unciales, subsimplices vel inordinate subpinnatimve ramosi, curvati, plus minus longe stipitati. Folia pallide griseo-virentia.

5. P. FLAGELLARIS (*Hampe in Ann. Sc. Nat.* ser. 5. iv. 356). Robustus, diviso-ramosus, elongatus, semipedalis et longior, rufescenti-viridis, flagellaris. Folia modice imbricata, sicca et humida patula, subsquarrosa, breviter plicata, e basi late oblonga concava, complicato-lanceolata, acuminata, fragilia, superne remote exciso-dentata, nervo angusto rufescente apice evanido percursa, basi latere reflexa plicata, cellulis lateralibus minimis moniliformibus subhyalinis, intermediis anguste ellipticis, superioribus abbreviatis densioribus, tota lutescenti-diaphana.—*Hampe, l. c.*

Hab. Andes Bogotenses, Choachi (2800 metr.), *Lindig*; Tolima, Summita, *Goudot*.

6. P. FUSCO-LUTESCENS (*Hampe in Ann. Sc. Nat.* ser. 5. iv. 357). Dioicus; surculus repens, parce fibrillosus; caulis basi attenuatus microphyllinus, accrescendo dense foliatus elongato-clavatus curvatus, simplex vel diviso-ramosus, basi fuscatus, apice lutescens. Folia caulina patentia, superiora strictiora triplicata e basi biplicata late oblongo-ovato-lanceolata, elongata, canaliculato-subulata, versus apicem remote spinuloso-dentata, nervo fusco-lutescente percursa apice evanido, cellulis lateralibus hyalinis minimis ellipticis subcatenulatis, intermediis elliptico-linearibus, infimis intense lutescentibus, versus apicem abbreviatis, anguste ellipticis in acumine elongatis diaphanis; perichætialia convoluta, brevia, late ovata obtusa, apice denticulata, acumine brevi integerrimo, cellulis elongatis, tota hyalina. Theca breviseta, vix emersa, ovata vel elliptico-ovata, rubra, operculo oblique conico-rostrato; calyptra cucullata, glabra; peristomium pyramidale, albidum, dentibus exterioribus lanceolato-subulatis parce noduloso-sinuatis, interioris ciliis angustioribus subconformibus. —*Hampe, l. c.*

Hab. Andes Bogotenses, Pacho (2200 metr.), *Lindig*.

7. P. LÆVIUSCULUS (*Mitt.*). Folia laxe compressa, patentia, ovato-lanceolata, apice acuminata, parum plicata, marginibus serrulatis, nervo sub apice evanido carinata, cellulis basi ad angulos pluribus parvis oblatis rotundisque, interioribus oblongis minutis postice papillosis, superioribus in folii medio rotundis, ad margines ellipticis; perichætialia erecta, ovata, apiculata, crenulata, tenuinervata. Theca in pedunculo ea breviore exserta, ovata, inæqualis, operculo conico curvirostro, peristomii dentibus pallidis processibusque punctulatis angustis apice in conum adhærentibus anastomosantibusque; calyptra dimidiata.

Hab. Andes Bogotenses, in sylvis supra Pacho (6000–7000 ped.), copiosus in truncis arborum, *Weir*, n. 126; inter Tipaquira et Pacho

6000 ped.), *Weir,* n. 255, inter Pacho et Turmal (6000 ped.), *Weir,* n. 282; etiam inter muscos, *Funck et Schlim.*

Rami 3–6-unciales, inferne nudi, superne furcatim pinnatimve ramosi. Folia viridia lutescentia, sicca subappressa, humida læviuscula. Theca satis magna, conspicua, peristomio albicante.

Species ab affinibus foliis latis minus plicatis minusque undulatis diversa videtur.

8. P. DICHOTOMUS (*Hampe in Linnæa,* xxvii. 150). Dioicus; surculus repens prostratus, fusco-tomentosus; caulis adscendens erectus, e basi attenuata microphyllina dichotome divisus, demum subfastigiate ramosus, 2–3-uncialis, ramis dense foliatis erectis sciuroideis læte viridibus, apice parce secundis. Folia accumbentia, humida patentia, concava, ovato-lanceolata, apice remote sinuato-dentata, nervo lutescente apice evanido, margine convexo patente bisulcata, cellulis marginalibus rotundatis griseo-pellucidis, cæteris densissimis ellipticis, ad apicem folii abbreviatis subrotundis pallide flavescentibus; diaphana; perichætialia tenuiora, thecam basi laxe involucrantia. Theca breviseta, emersa, ovata, sub ore constricta, punctato-opaca, operculo crasso conico subulato rostrato concolori, calyptra cucullata glabra basi pallida apice aurantiaca, peristomio pyramidali *P. densi.—Hampe, l. c.*

Hab. Andes Bogotenses, in sylvis Tequendama, Canoas, ad arbores (2500 metr.), *Lindig.*

9. P. DIVARICATUS (*Mitt.*). Folia e basi brevi erectiore recurva, undique divaricata, stricta, sicca laxe appressa, ambitu a basi latiore ovali sensim longe angustata plicata, marginibus planis, a medio ad apicem usque serrulatis, nervo sub apice evanido, cellulis basi in angulo extremo paucis minutis ovoideis, reliquis omnibus ovoideis oblongisve, superioribus extus papillosis obscuriusculis; perichætialia erecta, imbricata, ovata, apice subito in acumen angustum contracta, crenulata. Theca in pedunculo brevi perichætium æquante, ovalis, operculo subulato curvato, peristomii dentibus pallidis processibusque angustis æquilongis punctulatis, in membrana brevi impositis; calyptra dimidiata.

Hab. Andes Bogotenses, ad viam inter Tipaquira et Pacho (6000 ped.), ad arbores, *Weir,* n. 252, 274 et (7000 ped.) n. 286. Andes Quitenses, in monte Tunguragua, ad arbores (7500 ped.), *Spruce,* n. 1296 *b.*

10. P. UNDULATUS (*Mitt.*). Folia erecto-patentia, undique imbricata, subsecunda, lata, subovato-lanceolata, apicibus flexuoso-undulatis longitudinaliter plicatis, dentibus elongatis serratis, nervo infra apicem evanido, cellulis basi ad margines pluribus rotundatis parvis, interioribus papillosis, superioribus ovoideis rotundatisque; perichætialia erecta, late oblonga, apice truncata, apiculo brevi angusto tenuinervata, crenulata. Theca globoso-ovalis, subexserta, operculo subulato, peristomii dentibus angustis pallidis, interni processibus æquilongis valde noduloso-articulatis, in membrana brevi exsertis; calyptra conica, multifida.

Hab. Andes Bogotenses, ad viam inter Tipaquira et Pacho (6000 ped.), ad truncos arborum, *Weir*, n. 254; Paramo do Ruiz, *Purdie*. Andes Quitenses, Quito, *Jameson*, in monte Tunguragua, ad arbores et in monte Guayrapata (9000 ped.), *Spruce*, n. 1301.

Rami 4–8-unciales, crassiusculi, ramulis elongatis curvatis. Folia pallide luteo-viridia, valde undulata. Theca parva, inconspicua.

11. P. MUELLERI (*Hampe, in Ann. Sc. Nat.* ser. iv. 356). Dioicus; surculus repens ferrugineo-tomentosus; caulis basi attenuatus, adscendenti-erectus, incrassatus, robustus, parce diviso-ramosus, deinde elongatus, flagellaris, densissime foliatus, mollis, flavo-viridis. Folia dense imbricata, accumbentia, plicata, flexuosa, undulato-crispa, e basi brevi angusta decurrente lato-lanceolata, longe acuminata, basi pluries plicato-striata, margine versus apicem runcinato-dentata, nervo rufescente solido, apice evanescente, cellulis lateralibus minutissimis angulato-ellipticis hyalinis, intermediis anguste ellipticis sublinearibus, cæteris sensim abbreviatis minoribus subellipticis, tota flavescenti-diaphana; perichætialia setam brevissimam incrassatam involventia, late cordata, truncata, acuminata, margine superne erosa, nervo striato usque ad acumen producto, cellulis teneris limpidis membranacea. Seta brevissima, incrassata. Theca subglobosa, intense chryseo-rubra, nitida, inter folia occultata, operculo crasso conico-rostrato; calyptra brevis, cucullata, dorso excisa, quasi lobata; peristomium minus, croceum, dentibus gracilioribus sed generis.—*Hampe, l. c.*

Hab. Nova Granata, Ocanna (7000 ped.), *Schlim.*

77. LEPYRODON, Hampe in Ann. Sc. Nat.

Musci dense cæspitosi, ramis brevibus. Folia densa, lævia vel plicata, nitida, peristomio interno processibus in membrana impositis, externo obsoleto. *Habitatio* ad rupes.

Folia lævia.
  Folia ramea oblonga, piliformi-acuminata...... 1. *L. lagurus.*
  Folia ramea oblonga, obtusa, in acumen angustum producta. 2. *L. parvulus.*
Folia plicata.
  Folia ramea lineari-lanceolata, in acumen angustissimum elongatum sensim producta .... 3. *L. tomentosus.*
  Folia ramea angusta, sensim in acumen latiusculum attenuata. 4. *L. trichophyllus.*

1. L. LAGURUS (*Hook. Musc. Exot.* t. 126, Leucodon). Rami superne ramulis conformibus ramosi. Folia patentia, imbricata, excavata, nervo infra medium evanescente, margine erecto superne serrulata, cellulis angustis; perichætialia erecta, interna late elliptica acuminata. Theca

in pedunculo rubro, ovalis, erecta subinclinatave, operculo conico, rostro obliquo, peristomii dentibus brevibus truncatis emarginatisque, interni processibus elongatis angustis, per lineam mediam pertusis fissisque, articulationibus intus prominulis, in membrana breviter exserta insidentibus; calyptra straminea, lævia.

Hab. Andes Chilenses, Raneo et in Fuegia, Magellan, *Lechler*; Staaten Land, *Menzies*; Hermite Island, *J. D. Hooker*, etiam in Tasmania et Australia.

Rami 1–1½ unciam alti, in cæspitem stratosum congesti. Folia e viridi straminea, nitida. Pedunculus 9-linearis. Peristomium dentibus externis interioris membrana basilari brevioribus facillime prætervisis.

2. L. PARVULUS (*Mitt.*). Rami in cæspitem congesti. Folia patentia, imbricata, excavata, margine erecta, apice serrulata, nervo brevi fere obsoleto, cellulis angustis; perichætialia lanceolata. Pedunculus brevis. Theca ovalis; peristomium *L. tomentosi.*

Hab. Chili, Mas Afuera, *Cuming.*

Rami graciles, 3-lineares. Folia nitida, argenteo-viridia. Pedunculus 4-linearis.

Species parva, ramorum crassitudine coloreque *Bryo argenteo* subsimilis.

3. L. TOMENTOSUS (*Hook. Musc. Exot.* t. 37, Leucodon). Caulis primarius repens, pinnatim ramosus; rami demum in cæspitem densum congesti, erecti. Folia caulina patenti-recurva, a basi subcontracta subdeltoidea sensim longe subulata, tenuiacuminata, nervo infra apicem evanido, margine subserrulata; ramea erecto-patentia, subexcavata, triplicata, margine latiuscule plana, serrulata, nervo infra medium desinente, cellulis angustis pellucidis; perichætialia erecta, oblongo-lanceolata, acumine brevi, lævia. Theca in pedunculo breviusculo, ovalis, erecta, collo sensim attenuato, operculo subulato, peristomio externo obsoleto, interni processibus angustis, per lineam mediam perforatam secedentibus, pallidis, in membrana breviter exserta impositis; calyptra nuda.

Hab. Andes Bogotenses, Boqueron prope Bogota, ad rupes umbrosos et prope Pacho loco Turmal (9000 ped.), *Weir*, n. 203; Paramo do Ruiz, *Purdie*; etiam in Nova Granata, *Funck et Schlim.* Andes Quitenses, in monte Carguairazo (11,000 ped.), *Spruce*, n. 1253; in monte Tunguragua (8000 ped.), *Spruce*, n. 1254; prope Quito, *Jameson.* Andes Peruvianæ, in sylvis *Cinchonarum*, prope Loxa (1080 hexap.), *Humboldt et Bonpland.* Chili, ex *Herb. Montagne* (forma minor),

4. L. TRICHOPHYLLUS (*Sw. Fl. Ind. Occ.* iii. 1798, Neckera). Rami ex axillis foliorum superiorum ramulis gracillimis parvifoliis ramosi. Folia patentia, subtriplicata, enervia, margine erecta, serrulata, cellulis elongatis angustissimis.

Hab. Ins. Jamaica, *Sloane*, *Swartz*; Trinidad, *Crüger.*

Rami basi tomentosi. Folia straminea, nitida. Perichætia (sec. C. Müll. Syn. ii. 111, qui fructus ipse non vidit) " minuta pallida vix exserta, foliis brevioribus et tenuius acuminatis denticulatis quam caulinis; theca in pedunculo mediocri lævi purpureo erecta, ovata, operculo subulato; peristomii duplicis dentes exteriores inflexi, interiores ciliiformes erecti."

78. PHYLLOGONIUM, Brid. ii. 671.

Musci ramis sæpe prælongis, laxe pinnatim ramulosis. Folia nitida, verticaliter implana. *Habitatio* in arboribus et ad terram.

Theca immersa	1. *P. immersum.*
Theca exserta.	
Folia enervia, oblonga	2. *P. fulgens.*
Folia enervia, suborbiculari-ovata	3. *P. viscosum.*
Folia enervia, oblongo-linearia	4. *P. viride.*
Folia breviter binervia	5. *P. aureum.*

1. P. IMMERSUM (*Mitt.*). Folia ramea oblonga, apiculo obtusiusculo recurvo, breviter binervia; perichætialia duplo longiora, erecta, late ovalia, acumine lanceolato, convolutacea. Theca ovalis, brevissime pedunculata, operculo brevirostrato, peristomio brevi, dentibus latiusculis teneris; calyptra parva, dense ramentosa.

Hab. Brasilia, *Sowerby*; prope Corritiba in sylvis ad arbores (2000 ped.), *Weir*, n. 68.

Habitu statura coloreque aureo nitente fulvescente *P. fulgenti P. aureo*que simillimum, et nisi fructu satis diverso vix discrimen alium ostendens.

2. P. FULGENS (*Sw. Prodr. Fl. Ind. Occid.* 140, Hypnum; *Hedw. Musc. Frond.* iv. t. 39, Pterygynandrum). Folia ramea apice retusa, apiculo parvo recurvo; ramulina recurvo-apiculata; perichætialia paulo longiora, convolutacea, ovali-lanceolata, apicibus patentibus. Theca in pedunculo sesquilongiore exserta, ovalis, operculo subulato oblique rostrato, peristomii dentibus angustis pallidis, intus breviter trabeculatis, teretiusculis; calyptra rufescens, pilis paucis.

Hab. Ins. Jamaica, *Swartz, Wilds*; Cuba, *Wright*, n. 131. Andes Bogotenses, prope Bogota, *Holton*, n. 16; in sylvis prope Tequendama (7500 ped.), *Weir*, n. 306; ad arbores secus viam inter Bogota et Fusagasuga (8500 ped.), *Weir*, n. 326.

Rami imprimis arbusculoidei, in plana pinnatim ramosi, serius ex apice longe producto penduli, intricati. Folia ramea ramulinaque distiche imbricata, sæpe ad ramulorum basin teretiuscule imbricata, colore luteo-virentia, dein aureo-fulva.

3. P. VISCOSUM (*Beauv. Prodr.* 87, Pterygynandrum). Folia ramea apice explanata obtusa, sed ob marginis flexuram, apiculo obtusiusculo recurvo terminata; perichætialia erecta, caulina non excedentia, oblonga, sensim acuta, convolutacea. Theca in pedunculo vix ea longiore, ovalis.

Hab. Andes Quitenses, prope Quito, *Jameson*; in monte Tunguragua ad terram (7000 ped.), *Spruce*, n. 1173, 1174; in sylva Canelos (4000 ped.), *Spruce*, n. 1175; in monte Tunguragua (7500 ped.), viridius, *Spruce*, n. 1176.

Species omnium maxima, speciosissima. Rami 1–1½-pedales, parce ramosi. Folia aureo-viridia, fulvescentia, nitida, statu sicco subfoveolata.

A *P. fulgente P. aureo*que foliis multo latioribus, apiculo obtusiore, facile distinguitur.

Specimen ex ipso Beauvais ex ins. Bourbon in Herb. Hookeriano asservatum, tanquam e musco sterili dijudicandum, speciem omnino eandem ac Andinam ostendit.

4. P. VIRIDE (*Brid.*). Folia angustissima, longitudine quater latitudinem excedentia, colore pallidiuscule viridia.

Hab. Brasil, *Persoon.*

Species vix nisi colore viridi ab auctore a *P. fulgente* distinguenda, et inter ejus observationes criticas in memoriam retinuendum, uti *P. fulgens* Brideli species e *Pterygynandro fulgente* Hedw. et *P. viscoso* Beauv. composita.

5. P. AUREUM (*Mitt.*). Folia ramea oblonga, apice retusa, apiculo brevissimo recurvo; perichætialia erecta, interiora oblonga, convolutacea, apiculo breviusculo angusto. Theca in pedunculo ea parum longiore, ovalis, operculo subulato obliquo, peristomii dentibus angustis pallidis rugulosis, intus trabeculis brevibus; calyptra rufescens, pilis paucis.

Hab. Ins. Jamaica, *March, Maxwell, Wilds, Wilson*; S. Christophori, *Breutel.* Andes Peruvianæ, in monte Guayrapurina ex arborum ramis pendulum (3000 ped.), *Spruce*, n. 1178.

Statura habituque *P. fulgenti* simile; folia autem e pallide luteo-viridi aurescentia magis splendentia, omnia breviter nervata.

79. PTEROBRYUM, Hornsch. in Fl. Bras. i. 50.

Musci ramis elongatis. Folia lævia vel plicata, undique æqualia vel compressa, verticaliter implana, e cellulis angustis areolata. *Habitatio* ad arbores.

Sect. 1. EUPTEROBRYUM. *Rami arbusculosi. Theca immersa.*

Folia plicata.............................. 1. *P. densum.*
Folia lævia.
  Folia lanceolata, acuminata .... 2. *P. filicinum.*
  Folia cordato-ovata, breviter acuminata ...... 3. *P. trichomanoides.*
  Folia e basi dilatata angustata, subligulato-lanceolata. 4. *P. angustifolium.*

Sect. 2. ORTHOSTICHELLA. *Rami arbusculosi. Theca exserta. Folia seriatim imbricata.*

Folia anguste oblonga, acuminata.............. 5. *P. Pohlii.*

Folia oblonga, acuminata .... 6. *P. cymbifolium.*

Sect. 3. CYRTOPUS. *Rami arbusculosi. Theca exserta. Folia undique disposita.*
Species unica .... 7. *P. brasiliense.*

Sect. 4. CALYPTOTHECIUM. *Rami distiche pinnati, elongate prolixi.*
Species unica .... 8. *P. duplicatum.*

Sect. 1. *Eupterobryum.*

1. P. DENSUM (*Hornsch. in Mart. Fl. Bras. Musc.* 50). Rami ramulis densis in fronde latiuscula triangulari lanceolatave pinnatim ramosi. Folia patentia, anguste ovato-lanceolata, tricarinata, nervo sub apice evanido, marginibus serrulatis planis; perichætialia elongata, erecta, lanceolata, subulata, angusta, integerrima, tenuinervata. Theca ovalis, operculo acuminato brevi, peristomii dentibus brevibus teneris, interno externo adhærente.

Pterogonium densum, *Schwægr.* t. 243.

Hab. Mexico, *Deppe et Schiede*, et ex *Herb. Dozy*; Guatemala, *Godman et Salvin.* Ins. Indiæ occidentalis, ex *Herb. Brown*; Venezuela, Merida, *Moritz.* Andes Quitenses, Baños, *Jameson, Spruce.* Brasilia, Parana, Fazenda de Luzeada, in sylvis ad arborum truncos, *Weir*, n. 20.

Rami 2–4 uncias alti, stipite unciali, ramis longioribus 1–1½-uncialibus. Folia viridia, lutescentia fuscescentiaque, juniora nitida.

2. P. FILICINUM (*Sw. Prodr. Fl. Ind. Occ.* 138, Fontinalis). Rami superne pinnati, arbusculosi. Folia patentia, excavata, longitudinaliter rugulosa, integerrima, nervo percurrente, cellulis ovalibus inferne elongatis; perichætialia elongata, erecta, lanceolata, sensim angustata, nervo in aristam elongatam excurrente. Theca ovalis, "operculo breviter conico obtuso; peristomii dentibus exterioribus longe infra orificium oriundis parum exsertis lanceolatis geminatis brevibus rufescentibus."—*C. Müll. Syn.* ii. 180.

Neckera filicina, *Hedw. Musc. Frond.* iii. t. 18.

Hab. Ins. Jamaica, *Swartz, Wilson*; Hispaniola, *Green*; Cuba, *Funck et Schlim*, n. 2197, *Wright*, n. 76.

Stipes ½ unciam altus, inde in frondem dense fasciculatim pinnatus. Folia viridia, in ramulis subseriata.

3. P. TRICHOMANOIDES (*Spruce*). Rami inferne breviter stipitati, superne in frondem lanceolatam dense pinnatam ramosi. Folia basi alis undulatis instructa, apice planiusculo excavata, nervo tenui ultra medium evanido, marginibus subserrulatis, cellulis breviusculis limitibus prominulis punctulata; perichætialia elongata, erecta, rugulosa, interna lanceolata, sensim longe attenuata, aristiformia, plana, serrulata. Theca ovalis, ore parvo, operculo conico acuminato, peristomio infra os crassiusculum

subhorizontali, dentibus pallide luteis coalitis; calyptra parva, mitriformis, brevissime denseque ramentosa.

Hab. Andes Quitenses, in sylva Canelos (3000 ped.), *Spruce*, n. 1187. Andes Peruvianæ, in monte Pingullu, prope Tavalosos, ad arbores (3000 ped.), *Spruce*, n. 1188.

Caulis primarius longe repens, aphyllus, rami stipite ½-unciali, foliis parvis squarrosis, inde in frondem ramulis longioribus semiunciam metientibus dense approximatis, eleganter descrescenti-pinnatim ramosi.

4. P. ANGUSTIFOLIUM (*C. Müll. Syn.* ii. 181). Rami stipitati, in frondem lanceolatam ramulosi. Folia patentia, acuminata, ante acumen planiuscula, excavata, nervo percurrente, marginibus subintegerrimis, cellulis angustissimis; ramulina subpentasticha, elongate lanceolata, serrulata, nervo in aristam lævem producto. Theca globoso-ovata, immersa, peristomii dentibus coalitis.

Hab. Ins. Trinidad, *Crüger*; Martinique, ex *Herb. Schimper.*

Stipes uncialis, foliis squarrosis superne in frondem ramulis longioribus semiuncialibus divisus. Folia viridia, vix nitentia.

A *P. filicino* foliis angustioribus laxius imbricatis diversum.

Sect. 2. *Orthostichella*, C. Müll. Syn. ii. 123.

Musci foliis ramulinis seriatis. Thecæ in pedunculo longe exsertæ.

5. P. POHLII (*Schwægr.* t. 232). Rami superne in fronde brevi arbusculosa pinnato-divisi. Folia pentasticha, torta, anguste oblonga, acuminata, excavata, basi subcordata, nervo percurrente, marginibus subcrenulatis integerrimisve, apice latiusculis, planis, cellulis angustis breviusculis, limitibus prominulis punctulatis, basi paucis latioribus; perichætialia longiora, erecta, oblonga, convoluta, subulato-acuminata. Theca in pedunculo breviusculo rufo, ovali-cylindracea, operculo subulato, peristomii dentibus teneris angustis luteis.

Neckera longipes, *C. Müll. Syn.* ii. 123.

Hab. Ins. Trinidad, *Crüger*, ex *Herb. C. Müller*. Andes Peruvianæ, Tarapoto ad truncos (1500–2000 ped.), *Spruce*, n. 1180. Fl. Amazon ad fl. Maranon in truncis inundatis, *Spruce*, n. 1190.

Rami 1–2 uncias alti, ramulis ½-uncialibus, ramosi. Folia densiuscule inserta, viridia, obscuriuscula. Pedunculus ½ unciam longus.

6. P. CYMBIFOLIUM (*Sulliv. Icon. Musc.* t. 76). Folia pentasticha, oblonga, acuminata, excavata, margine apicem versus serrulata, plana, nervo percurrente, cellulis angustis breviusculis, ad angulos parvis quadratis.

Hab. Ins. Cuba, ad ligna putrida, *Wright*, n. 77.

Folia luteo-viridia, subnitida.

Habitu *M. Pohlii* simillimum eique quam maxime affine.

Sect. 3. *Cyrtopus*, Brid. ii. 235.

7. P. BRASILIENSE (*Hornsch. in Mart. Fl. Bras. Musc.* 52, Antitrichia). Rami simplices, stricti curvative. Folia dense inserta, patentia, late ovata, subacuminata, acuta, basi rotundata, excavata, nervo angusto supra medium evanido, marginibus superne minute serrulatis, cellulis angustis basi paucis flavidis; perichætialia elongata, erecta, lanceolata. Theca in pedunculo brevi, oblonga.

Hab. Fl. Negro, San Carlos, *Spruce*; Brasilia, Mandiocca, in Sierra dos Orgaos et in districtu Adamantum, *Martius, Gardner*, n. 74.

Caulis repens, aphyllus, radicans. Rami 1–2-unciales, crassiusculi. Folia stramineo-viridia, subnitida. Pedunculus 1½-linearis.

Sect. 4. *Calyptothecium,* Mitt. in Journ. Linn. Soc. 1868.

8. P. DUPLICATUM (*Schwægr.* t. 279, Hypnum). Folia distichacea, compressa, patentia, transversim undulata, e basi cordato-auriculata ovato-oblonga, apice acuta breviter acuminatave, nervo tenui infra medium evanido, marginibus apice subserrulatis, cellulis angustis; perichætialia erecta, interna elliptica acuminata. Theca immersa, ovalis.

Hab. Ins. S. Domingo; Nova Granata, *Purdie*. Andes Quitenses, in sylva Canelos (3000 ped.), *Spruce,* n. 1324. Andes Peruvianæ, in monte Campana (4000 ped.), *Spruce,* n. 1323; in monte Cerro Pelado prope Tarapoto (2000 ped.), *Spruce,* n. 1325. Brasilia, S. Paulo, in sylvis prope Pericicaba ad arbores (2000 ped.), *Weir,* n. 104.

Rami steriles ut plurimum 3–4-unciales, eleganter plumæformi-pinnati; caulis intense ruber, inferne denudatus, ramis fertilibus ultrapedalibus. Folia pallide viridia, nitentia.

80. METEORIUM, Brid. ii. 264.

Musci ramis sæpe prælongis flexuosis, indefinite continuis. Folia imbricata vel squarrosa, e cellulis angustis pellucidis vel obscuris densisque areolata. Pedunculi breves, sæpe asperi. *Habitatio* in arboribus, etiam sed rarius ad terram et rupes.

Sect. 1. EUMETEORIUM. *Theca in pedunculo brevi erecta.*

* *Folia excavata.*

Folia seriatim imbricata.
  Theca perichætio immersa.
    Folia enervia.
      Folia oblongo-ovata, acumine patulo .... 1. *M. guianense.*
      Folia oblonga, obtusa, mucrone brevi patulo terminata. 2. *M. excavatum.*
      Folia ovali-oblonga, obtusa, mucrone brevissimo. 3. *M. elongatum.*

Folia nervata.
Folia oblonga, apiculata .... 4. *M. quinquefarium.*
Folia oblonga, obtusa, apiculo angusto .... 5. *M. crinitum.*
Theca in pedunculo brevi exserta.
Folia nervo obsoleto vel breviter binervia.
Folia late oblonga, mucrone brevi .... 6. *M. tetragonum.*
Folia latissime ovata, acumine brevi ...... 7. *M. pachygaster.*
Folia e basi suberecta parum auriculata .. 8. *M. hexastichum.*
Folia oblongo-obovata .... 9. *M. versicolor.*
Folia cordato-lanceolata ....10. *M. Thunbergii.*
Folia uninervia ....11. *M. viride.*
Folia undique æqualia vel in ramulis tantum seriatim imbricata.
Theca immersa.
Folia acumine brevi terminata.
Folia enervia.
Folia late ovata, basi coarctata ....12. *M. livens.*
Folia latissime ovalia, basi subcordata ..13. *M. peruvianum.*
Folia oblonga, subenervia ....14. *M. mexicanum.*
Folia nervata.
Folia latissime ovata, apiculo parvo ....15. *M. nigricans.*
Folia e basi cordata late ovata, in acumen subulatum producta.
16. *M. filiferum.*
Folia e basi subauriculata late cochleariformi-oblonga.
17. *M. Ternstrœmiæ.*
Folia acumine elongato.
Folia late oblonga, basi subcordata, conniventia, apice obtusa.
18. *M. leucotrichum.*
Folia e basi angustata brevi sensim ovato-oblonga, acuminata.
19. *M. tortipilis.*
Folia e basi latiore subcordato-lanceolata ..20. *M. cubense.*
Folia ovata, obtusa ....21. *M. inordinatum.*
Folia e basi contracta late oblongo-ovata ..22. *M. longebarbatum.*
Theca in pedunculo brevi exserta.
Folia longe apiculata.
Folia e basi dilatata subcordata, ovata, acuminata.
23. *M. longissimum.*
Folia oblonga, acuminata ....24. *M. genuflexum.*
Folia suborbiculata, ramulina acumine brevi latiore.
25. *M. rotundifolium.*
Folia ovata, ramulina breviapiculata ......26. *M. macrocarpum.*
Folia e basi subcordato-ovata, obtusa ....27. *M. illecebrum.*
Folia e basi cordata ovato-oblongo-lanceolata.
28. *M. fusco-viride.*
Folia breviapiculata.
Folia uninervia, oblonga, lævia, basi cordata.
29. *M. teres.*

Folia brevissime binervia v. enervia.
Folia oblonga, obtusa, apiculo brevi recurvo.
30. *M. flexile.*
Folia oblonga, obtusa ....31. *M. molle.*
Folia latissime oblonga ....32. *M. rigidum.*
Folia latissime obovato-orbicularia ....33. *M. quitense.*
Folia late oblongo-ovalia ....34. *M. turgescens.*
Folia suborbiculata ....35. *M. orbifolium.*

** *Folia haud excavatu.*

Folia intense viridia, obscura.
Theca immersa.............................36. *M. penicillatum.*
Theca exserta.
Folia hastato-ovata, basi dilatata, alis rotundatis undulatis, apice in acumen angustum breve producta, lævia ..37. *M. lævifolium.*
Folia a basi cordata sensim subulata, apice in pilum confervoideo-articulatum exeuntia ....38. *M. Deppei.*
Folia e basi dilatata utrinque alis maxime auriculata, acumine brevi latiusculo terminata ....39. *M. Œrstedianum.*
Folia e basi subcordata sensim subulata, tenuiter acuminata.
40. *M. nigrescens.*
Folia angustissime lanceolata, longe et tenuiter acuminata.
41. *M. capillare.*
Species fructu adhuc ignoto.
Folia a basi cordata subito contracta, sublanceolata.
42. *M. imponderosum.*
Folia late ovata, apice breviapiculata ......43. *M. funale.*
Folia late cordata, acumine brevi plano ....44. *M. appressum.*
Folia lata longissime capillariformi-acuminata.
45. *M. denticulatum.*
Folia e basi subcordata sensim angustata, in pilum attenuata.
46. *M. flaccidum.*
Folia subhastato-lanceolata, acuminata......47. *M. viridulum.*
Folia nitida, pellucida.
Theca brevipedunculata.
Calyptra pilosa, subintegra.
Folia suborbiculari-cordata, in acumen angustum producta.
48. *M. patulum.*
Folia suborbiculata, in apiculo brevi acuminata.
49. *M. recurvifolium.*
Folia latissime ovata, acuminata ....50. *M. tovariense.*
Folia cordato-ovata, obtusiuscula ....51. *M. patens.*
Folia suborbiculari-cordata, acumine subulato terminata.
52. *M. implanatum.*
Folia orbiculari-cordata, in apiculum brevem acuminata.
53. *M. onustum.*

Folia subcordato-ovata, acuminata ......54. *M. auronitens.*
Folia e basi vix cordata anguste lanceolata. 55. *M. stramineum.*
Folia latissime ovata, breviter acuminata ..56. *M. sinuatum.*
Folia late lanceolata, in acumen longissimum setaceum tortum producta..............................57. *M. Widgrenianum.*
Folia e basi angustiore late cordato-ovata, acuminata.
58. *M. ambiguum.*

Calyptra nuda cucullata.
Folia late cordato-ovata, in acumen angustum producta.
59. *M. remotifolium.*
Folia e basi cordata lanceolata, longe acuminata, pilifera.
60. *M. consimile.*
Folia lanceolata, subacuminata ....61. *M. tenuissimum.*
Folia a basi subcordata ovata, acuminata ..62. *M. brevisetum.*

Sect. 2. AEROBRYUM. *Theca longius pedunculata exserta.*
Rami suberecti..............................63. *M. aciculatum.*
Rami penduli, flaccidi........................64. *M. debile.*

Sect. 1. *Eumeteorium.*

1. M. GUIANENSE (*Mont. Syll.* 24). Folia concava, sub apice utrinque plica inflexa acuminata, quinquefariam subspiraliter imbricata, integerrima, tenuissime lineari-areolata. Theca in perichætii foliis elongatis immersa, ovato-oblonga, truncata, operculo longitudinis capsulæ conico subacuminato; calyptra conica.

Neckera imbricata, var. brachypoda, *Mont. Cent.* 2. no. 74.

Hab. Guiana, *Leprieur.*

2. M. EXCAVATUM (*Mitt.*). Rami pinnati, arbusculosi. Folia quinquefariam patentia, excavata, basi cordata, ob margines involutos quasi acuminata, integerrima, cellulis angustis elongatis basi latioribus, interstitiis incrassatis interruptis aurantiacis ad angulos subimpressis.

Hab. Absque loco indicato, *Humboldt in Herb. Hooker.* Andes Bogotenses, *Weir*, n. 417, 420.

Rami 2–3 uncias longi, crassiusculi. Folia e viridi straminea, nitida. *M. involutifolio* ex Africa tropica et *M. Mauiensi* Sulliv. ex ins. Maris Pacifici affine.

3. M. ELONGATUM (*Mitt.*). Rami elongati, ramulis approximatis elongatis patulis pinnati. Folia pentasticha, patentia, excavata, ob margines superne subserrulatos involutos quasi acuminata, basi cordata, enervia, cellulis elongatis angustis basi latioribus, limitibus incrassatis interruptis aurantiacis, ad angulos subimpressis.

Hab. Andes Peruvianæ, in monte Campana (3500 ped.), *Spruce*, n. 1202.

Rami 4–6-unciales, ramulis longioribus 1½-uncialibus. Folia nitida, viridia, straminea.

M. involutifolio et *M. Mauiensi* quam maxime affine, foliis autem brevioribus distinctum.

4. M. QUINQUEFARIUM (*C. Müll. Syn.* ii. 124, Neckera). Folia ramea dense imbricata, quinquefaria, apice explanata, apiculo brevissimo, obtusissima, concava, obtuse biplicata, margine superne incurva ut folium magis apiculatum videret, apice minute serrulata, nervo ultra medium evanido, cellulis basilaribus ad angulos pluribus rotundatis, reliquis elongatis angustis; perichætialia elongata, anguste lanceolata, acuminata, subserrulata, nervata. Theca fere sessilis, ovalis, vaginula calyptraque longiusculis, ramentis elongatis crispulis pilosa.

Hab. Guatemala, *Kegel.* Ins. Trinidad, *Crüger*; Surinam, *Kegel.*

Caulis repens, ramos nonnullos subsimplices nonnullosque arbusculosos pendulos ferens. Folia aureo-fusca, pulchre pentasticha.

5. M. CRINITUM (*Sulliv. Amer. Expl. Exped.* t. 10, Neckera). Folia ramea dense imbricata, quinquefaria, profunde concava, lævia, apiculo plus minus elongato, margine apice incurva minute serrulata, nervo ultra medium producto, cellulis basilaribus ad angulos paucis subquadratis; perichætialia majora erecta, interiora a basi elliptica longe subulata, undulata, nervo percurrente. Theca sessilis, ovalis, operculo acuminato brevirostro, peristomii dentibus brevibus, interni processibus æquilongis externo adhærentibus; calyptra ramentis longissimis pluribus pilosa, uno latere profunde fissa.

M. erinaceum, *Spruce, Cat.* 18.

Hab. Ins. Cuba, *Wright*, n. 81 (forma gracilior); Venezuela, ex *Herb. Dozy*. Fl. Negro prope pagum Marabitanas, *Spruce*, n. 1211. Andes Quitenses, in sylva Canelos (3000 ped.), *Spruce*, n. 1212; in monte Tunguragua (7000 ped.), *Spruce*, n. 1210. Andes Peruvianæ, infra verticem montis Guayrapurina ad arborum ramulos (9000 ped.), *Spruce*, n. 1207. Shapaja prope Tarapoto (1200 ped.), *Spruce*, n. 1208; ad arbores riv. Shillicaio (1500 ped.), *Spruce*, n. 1209. Brasilia, Sierra dos Orgaos, *Bunbury*.

Habitu statura coloreque *M. quinquefario* simillimum, foliis autem lævibus acumine longiore differt.

6. M. TETRAGONUM (*Sw. Prodr. Fl. Ind. Occ.* 142; *Hedw. Sp. Musc.* t. 63, Hypnum). Rami pinnati, arbusculosi, ex apicibus producti. Folia pentasticha, imbricata, patentia, excavata, apice obtusa, marginibus superne involutis minute serrulatis, ramulina magis obovata obsoletinervia, cellulis angustis basi paucis abbreviatis; perichætialia elongata, erecta, lanceolata, sensim acuminata. Theca in pedunculo brevi, obovata, peristomii dentibus pallidis teneris, processibus æquilongis subcarinatis, in membrana brevi impositis.

Hab. Ins. Jamaica, *Swartz*; Venezuela, Caracas, *Birschel*; Collocar, *Moritz.* Andes Quitenses, ad fl. Napo, *Villavicensio*, ex *Jameson*; in sylva Llalla (9000 ped.), *Spruce*, n. 1217; in valle Pallatanga (7000 ped.), *Spruce*, n. 1218. Andes Peruvianæ, ad rivulum Shillicaio, *Spruce*, n. 1213; ad rivulum Aguashiyacu prope Tarapoto (1500–2000 ped.), *Spruce*, n. 1214; ad arbores secus Tarapoto (1500 ped.), *Spruce*, n. 1216.

Rami 3–4 uncias longi. Folia viridia fuscescentia, juniora nitida. Pedunculus 2-linearis.

7. M. PACHYGASTER (*C. Müll. Syn.* ii. 126, Neckera). Caulis repens, ramis longissime pendulis rigidis teneris rectis nec genuflexis, ramulis divergenti-divaricatis pinnatis inæqualibus teneris attenuatis rigidis decurvatis pallide viridibus nitidis compressiusculis. Folia quinquefariam in series obliquas subspirales laxe vesiculose imbricate disposita, e basi panduræformi-excavata auriculis parvis et cellulis alaribus obsoletis paucissimis flavidis prædita, marginibus superne parum involutis, maxime ventricosa, cochleariformia, obsolete binervia.—*C. Müll. l. c.*

Hab. Venezuela, in montibus nivosis prov. Meridæ, *Moritz*.

8. M. HEXASTICHUM (*Schwægr.* i. 2. 210, Hypnum). *M. pachygastro* simillimum, sed rami tenuissimi distincte pentagoni, haud compressi, folia multo minora, e basi suberecta parum auriculata, cellulis alaribus vix prædita subito maxime ventricosa, obsolete binervia.—*C. Müll. Syn.* ii. 126, Neckera.

Hab. Ins. Hispaniola, *Thouin*; Cuba, S. Yago, in monte Liban (3500 ped.), *Funck et Schlim*, n. 2198.

9. M. VERSICOLOR (*C. Müll. Syn.* ii. 127, Neckera). Rami pinnatim ramosi, elongati. Folia pentasticha, imbricata, patentia, obtusissima, apiculo parvo terminata, excavata, marginibus superne involutis serrulatis, nervo obsoleto, cellulis angustis basi ad angulos paucis abbreviatis obscuris; perichætialia longiora, erecta, oblonga, acumine patente subserrulato. Theca breviter ovalis, ore satis magno, operculo subulato, peristomii dentibus teneris processibusque pallidis angustis æquilongis, ad basin fere liberis.

Hab. Andes Quitenses, prope pagum Pallatanga, ad arbores vulgare (6000 ped.), *Spruce*, n. 1195; in sylva Canelos (4000 ped.), *Spruce*, n. 1196; in rivulum Vascun montis Tunguragua (7000 ped.), *Spruce*, n. 1197; Brasilia, *Sowerby*; Rio de Janeiro, *Beyrich*, *Beske*; S. Catherina, *Macrae*; Fazenda de Tucanduva (2000 ped.), ad truncos arborum, *Weir*, n. 39.

Rami 3–8-unciales. Folia e viridi luteo-fulvescentia nitida. Pedunculus 1½-linearis.

M. viridi primo visu simillimum, sed forma structuraque foliorum diversum.

10. M. THUNBERGII (*Brid.* ii. 381, Isothecium). Caulis decumbens, divisus, longiusculus, divisionibus vage ramosis; rami subsimplices, basi subnudi, teretes, recti. Folia imbricata, sexfaria, concava, acuta, nervo duplici albido instructa, humiditate patula, siccitate cauli appressa, e rufo

lutescentia, subviridia; perichætialia caulinis longiora angustiora. Theca in pedunculo erecto brevissimo rufescente, erecta, obovata, æqualis; peristomium duplex, albidum.—*C. Müll. Syn.* ii. 128.

Hab. Ins. Jamaica, unde *Thunberg* ad Jussieu misit.

11. M. VIRIDE (*C. Müll. Syn.* ii. 125, Neckera). Rami elongati, pinnati. Folia pentasticha, imbricata, patentia, oblonga, in mucronem acuminata, excavata, marginibus inferne erectis serrulatis, nervo medio evanido, cellulis ellipticis basi ad angulos rotundatos pluribus rotundis obscuris; perichætialia longiuscule lanceolata, convoluta. Pedunculi vaginula pilosa. Theca ovalis.

Hab. Venezuela, Caracas, *Moritz* ex *Herb. C. Müll.*; Nova Granata, Santa Martha, *Purdie*. Brasilia ad Rio de Janeiro, *Douglas, Heward.*

Rami 2–6 uncias longi, ex apice longe producti. Folia viridia, fuscostraminea.

12. M. LIVENS (*Schwægr.* t. 284, Hypnum). Caulis pendulus, subpinnato-fasciculatoque ramosus. Folia quadrifariam sed minus distincte imbricata, laxa, concava, interdum plica media nervum simulante sed basin folii non attingente, una alterave abbreviata laterali, viridia v. fusca, madore violaceo-fusca, enervia, cellulis anguste linearibus, alaribus multis laxius quadratis concoloribus.

Neckera livens, *C. Müll. Syn.* ii. 128.

Hab. Peruvia.

Fortasse a *M. nigricante* non diversum.

13. M. PERUVIANUM (*Mitt.*). Rami ramulis inæqualibus fasciculate pinnati. Folia patula, apice obtusa, apiculo parvo terminata, excavata, integerrima, enervia, cellulis oblongo-ellipticis, basilaribus ad angulos pluribus parvis quadratis; perichætialia erecta, ovalia, longe subulato-attenuata. Theca ovalis, operculo rostro brevi obliquo.

Hab. Peruvia, *Mathews?, in Herb. Hooker,* n. 295.

Rami 2-unciales, ramulis 1–2 uncias longis ramosi. Folia dense inserta, lævia, nitida, straminea fuscescentia.

14. M. MEXICANUM (*Mitt.*). Rami elongati, pinnatim ramosi, ramulis recurvis. Folia imbricata, patentia, late oblonga, excavata, apice obtusa, acumine brevi lato, integerrima, subenervia, cellulis angustis basi ad angulos paucis latioribus impressis flavescentibus; perichætialia erecta, elongata, late ovalia, acumine brevi, integerrima. Theca oblonga, operculo acuminato curvato.

Hab. Mexico, *Deppe et Schiede*; Cordillera de Oaxaca, *Galeotti*, n. 6886.

Rami 4-unciales, ramulis inordinatis laxe pinnati. Folia stramineoviridia, nitida.

15. M. NIGRICANS (*Hook. in Kunth, Syn. Pl. Æquin.*, Hypnum). Rami procumbentes, radicantes pendulive, ramulis brevibus interrupte pinnatim divisi. Folia ramea laxius imbricata, obtusissima, cochleariformi-concava,

nervo angusto sub apice evanido, margine apicem versus minute serrulata, cellulis ad angulos paucis subquadratis, in maculam parvam impressam aggregatis, reliquis elongatis angustis; ramulina quinquefaria, imbricata, suborbicularia, profunde concava, margine incurva, apice (explanata) retusa; perichætialia majora, elongata, late elliptica, subulato-acuminata, superne subplicata, enervia, integerrima. Theca ovalis, operculo conico subulato; peristomii dentes angusti, flavi, angustissime attenuati, processibus carinatis solidis æquilongis minute punctulatis, basi in membrana brevi exserta impositis; calyptra crassa, pallida.

M. macranthum, *Dozy et Molk. Prodr. Bryol. Surin.* t. 12.

Hab. Ins. Cuba, *Wright*, n. 79; Venezuela, ex *Herb. Dozy*; Mexico, *Deppe et Schiede.* Andes Quitenses, inter Pasto et Temdela (1300 hexap.), *Humboldt et Bonpland*; ad pedem montis Tunguragua, e ramulis pendulum (6500 ped.), *Spruce*, n. 1204; in sylvis Cinchonæ montis Chimborazo (4000 ped.), *Spruce*, n. 1205; in sylva Canelos (3000 ped.), *Spruce*, n. 1206.

16. M. FILIFERUM (*C. Müll. Syn.* ii. 133, Neckera). Rami pinnatim ramosi. Folia laxe imbricata, obtusa, concava, margine basi etiam ad basin acuminis flexuosa, ibique subserrulata, nervo sub apice partis latioris evanido, cellulis basi ad angulos subquadratis, in maculam impressam dispositis, reliquis elongatis angustis; ramulina laxe imbricata, oblongo-ovata, acuta, excavata, ob margines incurvos quasi apiculata; ramuli interdum versus apices ramusculos gracillimos elongatos plures prodentes, foliis appressis acuminibus elongatis angustis flexuosis; folia perichætialia multo majora, erecta, ovalia, sensim acuminata, margine superne flexuosa, nervo ultra medium producto. Theca ovalis, operculo acuminato; calyptra crassa, archegoniis paucis ornata.

Hab. Venezuela, Merida prope Lagunetta circa Merida (6500 ped.), *Funck et Schlim*, n. 991. Andes Bogotenses, in sylvis supra Pacho (6000 ped.), ad truncos ramosque arborum abundans, *Weir*, n. 131. Andes Quitenses, in monte Tunguragua, *Spruce* inter *M. nigricantem.*

Habitu statura coloreque foliorum *M. nigricanti* simile, folia autem diversa.

17. M. TERNSTRŒMIÆ (*Brid.* ii. 431, Hypnum). Caulis pendulus, tenuiusculus, foliosus, flexuosus, ramis brevibus simplicissimis curvatis densifoliis crassis lutescentibus nitidis teretibus. Folia caulina dense appressa, superne longitudinaliter subplicata, margine ubique erecto, ad acumen acutum subretusum subdenticulata, nervo tenui ante apicem evanido, cellulis elongatis angustissime linearibus lævibus lutescentibus, alaribus basi ventrem magnum sistentibus quadratis laxis pachydermibus flavidis subpellucidis.

Neckera Ternstrœmiæ, *C. Müll. Syn.* ii. 139.

Hab. Nova Granata, in truncis *Ternstrœmiæ.*

M. illecebro habitu simillimum.—*C. Müll. l. c.*

18. M. LEUCOTRICHUM (*Tayl. in Hook. Lond. Journ. of Bot.* vii. 196,

Hypnum). Caulis longe repens; rami elongati penduli. Folia patentia, excavata, marginibus involutis minute serrulatis, acumine angusto terminata, ramea turgide in apicibus ramorum cuspidate imbricata, acuminibus elongatis, nervo tenui ultra medium producto, cellulis angustis, basilaribus ad angulos pluribus quadratis, in glomerulum tumidum aggregatis; perichætialia elongata, erecta, late ovalia, acumine brevi margine subundulata, subintegerrima. Theca ovalis, operculo obliquo rostrato, calyptra ramentis elongatis vestita, peristomii dentibus angustis aurantiacis, processibus interni angustis subæquilongis flavis, in membrana brevi impositis.

Neckera rufescens, *C. Müll. Syn.* ii. 134.

Hab. Ins. Jamaica, *Wilson*; Venezuela, Cumbre de Valence (5000 ped.), *Funck et Schlim*, inter n. 619. Andes Bogotenses, in montibus inter Bucamaranga et Pamplona (8000 ped.), *Weir*, n. 406. Andes Quitenses, *Jameson*, in monte Chimborazo ramicola et foliicola (4000 ped.), *Spruce*, n. 1198, 1199; in monte Tunguragua (7000 ped.), *Spruce*, n. 1200; in monte Pichincha (10,000 ped.), *Spruce*, n. 1201. Andes Peruvianæ, in monte Campana (3500 ped.), *Spruce*, n. 1202; in monte Guayrapurina (3000 ped.), *Spruce*, n. 1203.

Rami 1–2-pedales, ramulis $\frac{1}{2}$–1 unciam longi. Folia juniora viridia straminea, seniora rufa nigrescentiaque nitida.

19. M. TORTIPILE (*C. Müll. in Bot. Zeit.* 1855, 768, Neckera). Cæspites usneoideo-intricati, penduli; caulis filiformis, flexuosus, infima basi parum robustior, et una cum ramulis infimis distincte seriatim foliosus, in cæteris partibus sensim subcapillaribus indistincte seriatim foliosus, ramulis sciuroideo-attenuatis flexuosis distantibus pinnatim divisus, e flavescente parum rufescens sericeus. Folia caulina sicca et madefacta appressa, apicibus setaceis solum patentia, angusta, cymbiformia, in acumen capillare tortuoso-flexuosum vix denticulatum acutiuscula, nervo tenui ad medium usque protracto, cellulis linearibus lævibus pallentibus, alaribus planis paucis minute quadratis.

Hab. Brasilia, S. Catharina in arboribus, *Blumenau.*

20. M. CUBENSE (*Mitt.*). Rami elongati, laxe pinnatim ramosi, ramuli attenuati. Folia appressa, apice in acumen elongatum planum angustum producta, obsoletinervia, marginibus inferne serrulatis superne integerrimis, cellulis angustis lævibus, ad angulos pluribus oblongis obscuriusculis; ramulina oblonga, concava, acuminata.

M. trichophorum, *Sulliv.*, vix Isothecium? trichophorum, *Mont. in Ann. Sc. Nat.* ser. 2. xix. 238.

Hab. Ins. Cuba, *Wright*, n. 82.

Rami pedales, ramulis inordinatis curvatis, basi foliis patentibus inde appressis ramosi.

21. M. INORDINATUM (*Mitt.*). Rami inordinate pinnatim ramosi, penduli. Folia patentia, concava, acumine angusto elongato piliformi, nervo angusto ultra medium evanido, margine integerrima, cellulis

elongatis ad angulos pluribus quadratis obscuris; ramulina ovalia, concava, acumine breviore; perichætialia erecta, ovalia, subulato-acuminata, nervata. Theca ovalis, peristomii interni processibus brevibus, in membrana breviter exserta impositis.

M. nitidum, *Sulliv. Amer. Expl. Exp.* t. 20 B.

Hab. Brasilia, ad Mandiocca, *Beyrich* ex *Hornschuch*; Rio de Janeiro, prope Piedad, *Milne*; Sierra dos Orgaos.

Rami 3–4 uncias longi, ramulis semiuncialibus sparsis. Folia viridia, nitida. Statura *M. molli* simile.

22. M. LONGEBARBATUM (*Hampe in Linnæa*, xxxi. 525, Neckera). Caulis biformis, elongatus, pendulus, basi intense viridis, apice pallescens; rami inferiores breves, distiche dispositi, obtusi vel acutati, intense virides; rami penduli, elongati, pallide virides, nitentes, angustati, inordinate ramosi. Folia cucullato-concava, lævia, integerrima, pilifera, nervo tenui ad apicem producto, cellulis alaribus crassis fusco-flavidis, cæteris elongatis linearibus, pellucidis; ramulorum angustiora, pallidiora, pilo longiore flexuoso prædita. Fructus deest.

Hab. Andes Bogotenses, Cipacon, ad arbores longe pendula (2600 metr.), *Lindig.*

M. nigrescenti affine, tamen toto habitu et nervo longiore diversum, *M. Anderssoni* C. Müll. proxima videtur.—*Hampe, l. c.*

23. M. LONGISSIMUM (*Raddi, Critt. Bras.* 9, Hypnum). Rami elongati, ramulis dispersis pinnatim ramosi. Folia divergentia, acumine plano angusto fere duplo folio longiore, concava, nervo sub apice partis ovatæ evanescente, marginibus tenuiter serrulatis, ad acuminis basin subundulatis, cellulis angustissimis firmis basi flavescentibus, ad angulos abbreviatis obscuris; perichætialia parva, erecta, convoluta, ovalia, obsoletinervia, apice retusa, subdentata, acumine angusto folio breviore, vaginula longe pilosa. Theca ovalis, erecta, operculo subulato obliquo, peristomii dentibus brevibus pallidis irregularibus; calyptra infra thecæ medium descendens, latere fissa, ramentis sericeis vestita.

M. brasiliense, *Sulliv. Amer. Expl. Exp.* 21, t. 19.

Hab. Brasilia, in montibus ad Villam Ricam et in Serra d'Estrella, *Beyrich*; ad viam ferream inter Santos et S. Paulo, in sylvis ad arborum truncos (2500 ped.), *Weir*, n. 5.

Rami pedales, horride foliosi. Folia fere 4 lineas longa, aureo-nitentia, fulvescentia. Pedunculus 2-linearis.

24. M. GENUFLEXUM (*C. Müll. Syn.* ii. 152, Pilotrichum). Rami vage ramosi, elongati, flaccidi. Folia patentia, imbricata, concava, superne marginibus subito sinuato-inflexis, in acumen canaliculatum contracta, nervo supra medium desinente, marginibus apice denticulis reduncis retrorsisve serrulatis, basi anguste reflexis, cellulis ellipticis latiusculis teneris; perichætialia erecta, convoluta, ovalia, apice subtruncata, obtusa,

integerrima dentatave. Theca in pedunculo rubro, breviter ovalis, erecta, collo sensim attenuato, peristomii dentibus intus trabeculatis, interni processibus æquilongis carinatis, articulis nodosis, in membrana brevissima impositis; calyptra nuda.

Hookeria ancistroides, *Mont. in Ann. Sc. Nat.* ser. 3. iv. 676, *et in C. Gay, Hist. Chile, Crypt.* t. 4. f. 4.

Hab. Chili, ex *Herb. Montagne*; Arique, ad arborum truncos, *Lechler*, n. 628.

Rami 2–4 uncias longi. Folia albo-viridia, subnitida. Pedunculus 3-linearis.

25. M. ROTUNDIFOLIUM (*Mitt.*). Rami pinnati, flexuosi. Folia appressa, acumine angusto attenuato, brevissime nervata, integerrima, cellulis angustis, basilaribus ad angulos pluribus quadratis subimpressis, maculam subquadratam formantibus; ramulina ovalia, excavata, margine involuta, nervo ultra medium evanido; perichætialia erecta, elongate lanceolata. Theca emersa, ovalis, peristomii dentibus teneris, processibus æquilongis? angustis, in membrana brevi exserta impositis.

Hab. Brasilia, inter Castro et Corritiba, in sylvulis ad truncos ramosque arborum (2000 ped.), *Weir*, n. 62.

Rami 3-unciales, ramulis ½-uncialibus. Folia imbricata, viridia; perichætialia apicibus ad basin usque thecæ productis. Vaginula nuda.

M. Buchanani Brid. Indiæ orientalis subsimile.

26. M. MACROCARPUM (*Spruce*). Rami elongati, repentes pendulive. Folia acumine elongato flexuoso integerrima, nervo medio desinente, cellulis ad angulos pluribus quadratis vix impressis, superioribus elongatis angustis; ramulina densa, pentasticha, cymbiformi-concava, ovalia (explanata acuta), ob marginem incurvatum quasi in apiculum brevem latum subtriangularem contracta; perichætialia erecta, interna ovali-lanceolata, nervo ultra medium producto. Theca in pedunculo subcurvato, ovali-cylindracea, collo sensim attenuato, operculo conico subulato, peristomii dentibus flavis angustis, interni processibus æquilongis angustissimis minute punctulatis, basi in membrana brevi impositis; calyptra ramentis crassis pilosa.

Hab. Andes Peruvianæ, in monte Guayrapurina, ad ramulos *Artocarpæ* cujusdam (vel potius *Lacistemæ*), socio *M. flaccido, Spruce*, n. 1191, et (3000 ped.) *Spruce*, n. 1194.

Rami vel abbreviati cæspitosi vel longe penduli. Folia nitida e viridi aureo-straminea, fulvescentia. Pedunculus 4-linearis. Theca sub 2-linearis, nigro-fusca.

27. M. ILLECEBRUM (*C. Müll. Syn.* ii. 137, Neckera). Rami elongati, pinnatim ramosi. Folia erecto-patentia, laxe appressa, concava, acumine elongato anguste capillari-attenuato sæpe diffracto, marginibus minute crenulatis basi apiceque flexuosis, nervo ultra medium evanido,

cellulis angustis papillis minutis in medio impositis, basi ad angulos latioribus; ramulina patentia, tereti-imbricata, oblonga, excavata, quadruplicata, marginibus latiuscule planis; perichætialia erecta, oblonga, acuminata, nervata. Theca in pedunculo medio scabro, vaginula pilosa, breviter ovalis, erecta, collo sensim attenuato, operculo oblique rostrato, peristomii interni processibus angustis dentium longitudinis, in membrana brevi exserta; calyptra pilosa latere fissa.

Hab. Mexico, *Deppe et Schiede*, n. 1093, *Aschenborn, Ehrenberg, Coulter*; Guatemala, *Kegel.* Ins. Taboga, *Seemann*; Jamaica, *Wilds*; Venezuela, ex *Herb. Dozy.* Andes Bogotenses, inter Tipaquira et Pacho (7000 ped.) ad arbores, *Weir*, n. 288. Andes Quitenses, Quito, *Jameson*, ad pedem montis Tunguragua, *Spruce.* Brasilia, Parana in sylvulis planitierum "Campos" (2000 ped.), *Weir*, n. 60.

Rami 2–18 uncias longi, ramulis dispersis. Folia vel sicca vel humida plicata, juniora pallide viridia, seniora nigrescentia vix nitentia. Pedunculus 3-linearis.

28. M. FUSCO-VIRIDE (*Hampe in Linnæa*, xxxi. 526, Neckera). Caulis conformis, pendulus, robustior, ramosissimus; rami inordinati, breves, basi fusci, apice virides, bicolores, patentes, subteretes, obtusiusculi. Folia plicata, accumbenter imbricata, erecta, concava, basi rotundato-auriculata, auricula inflexa, piliformi-acuminata, subintegerrima, nervo supra medium producto, cellulis alaribus paucis ellipticis hyalinis, cæteris modice papillosis elliptico-linearibus diaphanis. Fructus in speciminibus nullus.

Hab. Andes Bogotenses, Cipacon, *Lindig.*

Ex habitu *M. illecebri* C. Müll. differt foliis laxioribus, e basi cordata ovato-oblongo-lanceolatis; *M. Ternstrœmiæ* C. Müll., foliis integerrimis piliformi-acuminatis, nervo ad $\frac{3}{4}$ nec apice evanido distat.—*Hampe, l. c.*

29. M. TERES (*Mitt.*). Rami elongati, flexuosi, pinnati. Folia patentia, imbricata, profunde excavata, apice obtusa, apiculo angusto, nervo supra medium evanido, marginibus erectis minute crenulatis basi undulatis, cellulis angustissimis basi paucis abbreviatis; ramulina conformia; perichætialia parva, oblonga, acuminata. Theca in pedunculo scabro, vaginula longe pilosa, ovalis, erecta, operculo subulato obliquo, peristomii dentibus processibusque in membrana brevi exserta obscuris.

Hab. Mexico, Xalapa, *Harris, Deppe et Schiede*, n. 1093; Oaxaca, *Galeotti*, n. 6887.

Rami 4-unciales, ramulis crassis teretibus ramosi. Folia densa, tumida, juniora luteo-viridia, seniora nigricantia. Pedunculus 2-linearis.

M. illecebro simillimum, sed foliis apiculo brevi margine haud implanatis dorso vix undulatis differt.

30. M. FLEXILE (*Sw. Prodr. Fl. Ind. Occ.* 141, Hypnum). Rami elongati, procumbentes pendulive, flexuosi. Folia patentia, imbricata, profunde excavata, basi rotundata, subcordata, marginibus integerrimis superne involutis, cellulis angustis basi ad angulos abbreviatis obscuris, in

maculam flavescentem congestis; ramulina acutiora, arctius imbricata; perichætialia elongata, erecta, late elliptica, acuta. Theca in pedunculo brevi superne scabro, vaginula ramentis elongatis vestita, ovalis, erecta, operculo subulato, peristomii dentibus pallidis angustissime attenuatis, interni processibus angustissime capillariformibus brevioribus, membranæ brevi exsertæ impositis; calyptra ad thecæ basin descendens, latere fissa, ramentis nitidis crispatulis inferne obtecta, apice nuda.

Hab. Ins. Jamaica, *Swartz*, *Wilds*; Venezuela, *Funck et Schlim*, n. 371, *Moritz*, *Birschell*. Andes Bogotenses, in sylvis prope Pacho (8000 ped.), *Weir*, n. 290; in montibus inter Bucaramanga et Pamplona (8000 ped.), in sylvis, *Weir*, n. 397. Brasilia, ex *Herb. Sowerby*, prope Castro, in sylvis ad arbores (2000 ped.), *Weir*, n. 52.

31. M. MOLLE (*Hedw. Musc. Frond.* iv. t. 40, Leskea). Rami elongati, penduli, flexuosi, pinnati. Folia erecto-patentia, laxe imbricata, cochleariformi-concava, inferne marginibus incurvis panduriformia, enervia, integerrima, cellulis angustis ad angulos in glomerulos obscuros rotundatos tumidos congestis; ramulina patentia, obovata, obtusa, ob margines superne incurvos subacuta, nervis brevibus; perichætialia interna elongata, elliptico-ligulata, acuta. Theca in pedunculo plerumque arcuato, ovalis, operculo subulato subrecto, peristomii dentibus latiusculis brevibus pallidis, interni processibus angustis perforatis, apicibus inter se anastomosantibus, basi in membrana fere ad dentium medium exserta impositis.

Neckera Cumingii, *C. Müll. Syn.* ii. 132, *et in Bot. Zeit.* 1855, 768.

Hab. Chili, a Concepcion ad Valdiviam vulgatissimum, *Reynolds*, *Lechler*, n. 257; Arique, *Lechler*. Ins. Chiloe, *Cuming*; Juan Fernandez, *Bertero*; archipelago Chonos, *Darwin*.

Rami 4–8 uncias longi, flexuosi, ramulis uncialibus flexuosis. Folia nitida, straminea, pallide fulvescentia. Pedunculus 2-linearis. Folia in speciminibus Chilensibus quam in Novo-Zelandicis parum densius inserta, cæterum haud discrepant.

32. M. RIGIDUM (*C. Müll. Syn.* ii. 126, Neckera). Rami elongati, ramulis inæqualibus pinnati. Folia erecto-patentia, excavata, ob marginum flexuram subpanduriformia, mucrone brevissimo, basi cordata, enervia, marginibus basi subserrulatis, cellulis angustis ad angulos abbreviatis lutescentibus; ramea subpentasticha, nervis brevissimis; perichætialia convolutacea, anguste acuminata. Theca in pedunculo perbrevi, tenuissima, minute oblonga; peristomii dentes exteriores rigidi, pallidi, inæqualiter angusti, interni cilia rigida fragilia, flavida, longitudine fissa.—*C. Müll. l. c.*

Hab. Mexico, *Ehrenberg*, ex *Herb. C. Müller*.

33. M. QUITENSE (*Mitt.*). Rami laxe cæspitosi, elongati, irregulariter pinnatim ramosi. Folia undique imbricata, in ramorum ramulorumque apicibus cuspidata, obtusa, basi cordata, cochleariformia, nervis brevis-

simis, marginibus apice serrulatis, cellulis angustis ad angulos pluribus parvis hexagonis obscuris, in orbem parvum ventricosum congestis.

Hab. Andes Quitenses, *Jameson*; in monte Pichincha (11,000 ped.), *Spruce*, n. 1042.

Rami 2–4-unciales, ramulis divergentibus; caulis pallidus. Folia pallide viridia, straminea, humida nitida, sicca obscura.

Ex habitu colore formaque foliorum *Hypno puro* Europæ et Americæ septentrionalis simillimum, sed robustius, foliis apice absque mucrone serrulatis, et margine basi haud recurvis.

34. M. TURGESCENS (*C. Müll. Syn.* ii. 131, Neckera). Rami plus minus elongati, ramulis brevibus divergentibus, apicibus sæpe attenuatis pinnatim ramosi. Folia patula, imbricata, in apicibus ramorum in cuspidem congesta, excavata, basi subcordato-rotundata, apice acuta, marginibus incurvis integerrimis, enervia, cellulis angustis; "theca et calyptra *Neckeræ cochlearifoliæ* (*M. orbifolii*)."—*C. Müll. l. c.*

Hab. Mexico, *Ehrenberg, Jameson.* Ins. Jamaica, *Wilds.* Andes Quitenses ad arbores secus riv. Vascun (7000 ped.), *Spruce*, n. 1232.

Rami 2–12-unciales, ramulis vix ultra ½-uncialibus rectis curvatisve ramosi. Folia straminea fulvescentia subnitida, seniora fuscescentia.

35. M. ORBIFOLIUM (*Mitt.*). Rami elongati, pinnati. Folia patula, profunde excavata, obtusa, basi cordata, enervia, marginibus apice minute serrulatis, alis ad basin subserrulatis, cellulis angustis ad angulos abbreviatis obscurioribus; "perichætialia cylindraceo-convoluta exserta acuminata. Theca in pedunculo longiusculo exserta, oblonga, operculo conico obliquo longiusculo, calyptra basi crenulata pilosiuscula; peristomium robustius, interni cilia filiformia subnodosa, externos subæquantia rugulosa pallida."—*C. Müll.*

Neckera cochlearifolia, *C. Müll. Syn.* ii. 130.

Hab. Mexico, *Ehrenberg*; ins. Taboga, *Seemann.*

M. turgescenti simillimum, sed foliis paululum brevioribus densius insertis distincta.

36. M. PENICILLATUM (*Dozy et Molk. Prodr. Bryol. Surinam*, 45, t. 11). Rami graciles, penduli, pinnati. Folia e basi cordata auriculis amplis eroso-denticulatis ovata, caviuscula, subtriplicata, acumine brevi planiusculo semitorto, integerrima, nervo medio evanido, cellulis opacis papillis dense obsitis, inferioribus pellucidioribus vix papillosis; perichætialia longiora, pellucidiora, lineari-lanceolata, subplicata, integerrima vel apice serrulata. Theca oblonga, subgibba, operculo conico acuminato, peristomii interni processibus angustis quam dentes brevioribus, in membrana brevisssima impositis; calyptra parva, dense pilosa.

Hab. Venezuela, ad arbores in sylvis, juxta Rio del Tuy, *Van Landsbergen.*

This species is rightly compared to *M. fuscescens* from the East Indies; but when the authors also compare it with *M.*

tenuissimum, it is *M. imponderosum* they mean, and which they had mistaken for the other species, and distributed as *M. tenuissimum.*

37. M. LÆVIFOLIUM (*Mitt.*). Rami elongati, penduli, flexuosi, pinnatim bipinnatimve ramosi. Folia patenti-incurva, concava, nervo medio evanido, margine erecta, basi crenulata, cellulis superioribus oblongis obscuris, basilaribus ad nervum paucis elongatis pellucidis; ramulina profundius excavata, apiculo breviore; perichætialia parva, erecta, lanceolata, acuminata, nervata, subserrulata. Pedunculus brevis, vaginula pilis pluribus elongatis ad basin usque thecæ ovalis productis. Peristomii dentes teneri processibus angustis æquilongis?, in membrana brevissima impositis.

Hab. Ins. Jamaica?, ex *Herb. Brown.* Venezuela, ex *Herb. Dozy.* Andes Quitenses, in monte Tunguragua ad pagum Baños (6000 ped.), *Spruce*, n. 1255, 1256.

Rami 2–12 uncias longi. Folia juniora viridia flavescentia, deinde fulva fuscescentia, demum nigricantia, cellulis difficillime cernendis. Pedunculus 2-linearis.

Species inter affines foliis siccitate tereti-imbricatis lævibus statim cernenda.

38. M. DEPPEI (*Hornsch.*; *C. Müll. Syn.* ii. 136, Neckera). Rami repentes pendulive, pinnati, flexuosi. Folia appressa, nervo ultra medium desinente, margine flexuosa, crenulata, cellulis angustissimis; ramulina patentia, a basi subcordata latiore ovato-lanceolata, breviter acuminata. Theca in pedunculo brevi, ovalis, erecta.

Hab. Mexico, *Deppe et Schiede*; ins. Trinidad, *Sieber*. Andes Bogotenses, *Weir*.

Rami pedales, ramulis flexuosis. Folia viridia lutescentia fuscescentiaque deinde nigrescentia. Pedunculus 3-linearis.

M. nigrescente majus, foliis rameis latioribus in pilum productis.

39. M. ŒRSTEDIANUM (*C. Müll. Syn.* ii. 671, Neckera). Caulis elongatus, attenuato-filiformis, ramis multis filiformibus attenuatis sæpius elongatis et iterum ramulosis valde pinnatim divisus, rigidus, sordide viridis v. lutescens. Folia caulina appressa, rigida, madore erecto-patentia, basi alis parum undulatis erosis circinatis prædita, hastato-lanceolata, speluncoso-plicata et carinata, acumine subtorto brevi latiusculo terminata, margine hic illic valde revoluto ubique distincte serrulato instructa.—*C. Müll. l. c.*

Hab. America centralis, Costa Rica, in regione montosa (5000–8000 ped.), *Œrsted.*

M. denticulato proximum.—*C. Müll. l. c.*

40. M. NIGRESCENS (*Sw. Prodr. Fl. Ind. Occ.* 141, Hypnum; *Schwægr.* t. 244). Rami repentes, ramulis pinnatis vel elongatis flexuosis

pinnatim ramosi. Folia patentia, longitudinaliter subundulata, nervo medio evanido, marginibus subundulatis tenuiter crenulatis, cellulis elongatis obscuriusculis; ramulina e basi parum latiore subcordata ovato-lanceolata, excavata, sicca triplicata, acumine plano, nervo ultra medium producto, marginibus planis tenuiter crenulatis; perichætialia ramulinis similia, tenuiora. Theca in pedunculo brevi pallido, vaginula pilis exsertis, late ovalis, operculo subulato; calyptra latere fissa, pilis paucis vestita.

Hab. Ins. Jamaica, *Swartz*; Hispaniola, *Thuiller*; Trinidad, *Crüger*, *Black*; Barbadoes, Cuba, *Wright*, n. 83; Venezuela, *Moritz*, *Wagner*; Nova Granata, *Blagborne*. Brasilia, ex *Herb. Sowerby*; Rio de Janeiro, *Milne*.

Rami 3–6 uncias longi, ramulis 1–2-uncialibus crassitudine valde variantibus. Folia e viridi lutescentia, demum nigrescentia. Pedunculus 4-linearis.

41. M. CAPILLARE (*C. Müll. Syn.* ii. 134, Neckera). Dioica; ramis pendulis longissimis quam maxime tenuissimis capillaribus maxime flexuosis flaccidis flavidis, ramulis brevissimis maxime remotis decurvatis. Folia erecta, laxiuscule imbricata, acuta, parum concava, nervo longo tenui evanido, basi parum auriculata, cellulis alaribus paucis parvis planiusculis prædita, papillis obscura et margine denticulato-scabra, flavide viridia; perichætialia parum latiora, obsoletinervia, multo laxius et pellucide reticulata, lævia. Theca in pedunculo perbrevi perichætio minuto paraphysibus immersis vix instructo inserto, minute ovalis; dentes peristomii externi angusti, interni cilia capillaria nodosa.—*C. Müll. l. c.*

Hab. Mexico, *Deppe et Schiede*, n. 1082 (*Pterogonii*, sp., Hornsch.).

42. M. IMPONDEROSUM (*Tayl. in Hook. Lond. Journ.* v. 62, Leskea). Rami graciles, penduli, pinnati, ramulis interdum iterum pinnatim divisis. Folia erecto-patentia, longitudinaliter triplicata, basi auriculis circinatis undulatis, apice latiuscule acuta semitorta, nervo ultra medium desinente, margine basi crenulata superne serrulata; ramulina conformia, argutius serrulata.

Hab. Mexico, *Jurgensen*; Panama, ad Villam Crucis, *Seemann*; Venezuela, ex *Herb. Dozy*. Andes Bogotenses, Turmal prope Pacho ad ramos arborum (8000 ped.), *Weir*, n. 281. Andes Quitenses, prope Esmeraldas, *Jameson*; in monte Tunguragua ad terram (7000 ped.), *Spruce*, n. 1268; in sylva Canelos (3000 ped.), *Spruce*, n. 1269; ad fl. Pastasa, loco Antombos (5000 ped.), *Spruce*, n. 1270; in monte Chimborazo (4000 ped.), *Spruce*, n. 1271.

Rami 3–6 uncias longi.

M. Harveyi Mitt. (*Trachypus*) Indiæ orientalis simile.

43. M. FUNALE (*Wils. in Ann. Nat. Hist.* 1847, 378, Pilotrichum). Rami pinnatim ramosi. Folia erecto-patentia, longitudinaliter triundulata, basi subcordata, excavata, nervo tenui ultra medium evanido, margine basi

undulato superne erecto serrulata, cellulis anguste ellipticis, basilaribus ad nervum paucis longioribus concoloribus.

Hab. Ins. Jamaica, Port Royal, *M'Nab in Herb. Hooker.*

Rami in speciminibus forsan imperfectis 2-unciales. Folia viridia.

M. lævifolio simile, sed foliis serrulatis et cellulis angustioribus facile cernendum.

44. M. APPRESSUM (*Hornsch. in Mart. Fl. Bras. Musc.* 90, Hypnum; *C. Müll. Syn.* ii. 136, Neckera). Rami procumbentes pendulive, ramis simplicibus demum pinnatis, apicibus ramusculis filiferis. Folia patentia, excavata, dorso subtriplicata, nervo ultra medium producto, margine basi flexuosa, superne plana, subrecurva, subcrenulata, cellulis elongatis, superioribus obscuriusculis, inferioribus pellucidioribus; ramulina a basi subcordata ovata, excavata, acumine brevi margineque plana.

Hab. Andes Bogotenses, in montibus inter Bucaramanga et Pamplona (8000 ped.), ad arbores, *Weir*, n. 403, 405, 407. Andes Peruvianæ, secus Tarapoto ad arbusculos in sylvis recentioribus (1500–2000 ped.), *Spruce*, n. 1257, 1258, 1259, ad ostia riv. Cumbasa (1300 ped.), *Spruce*, n. 1261; fl. Huallaga ad Yurimaguas, in *Crescentiæ cujete* ramis, *Spruce*, n. 1260. Brasilia, Minas Geraës, *Martius*; Rio de Janeiro, *Heward.*

Rami 2–3 uncias longi intricate cæspitosi.

A *M. nigrescente* foliis latioribus acumine breviore, dorso minus distincte plicatis recedit.

45. M. DENTICULATUM (*C. Müll. Syn.* ii. 137, Neckera). Dioicum, *M. Deppei* simillimum, sed differt ramis subtruncato-obtusis tenuibus, minus regulariter et æqualiter pinnatis, flavo-viridibus, haud nigrescentibus, foliis caulinis multo latioribus, margine papillis tenuissimis distincte denticulatis, e cellulis distinctioribus compositis, dentibus peristomii externis longioribus magis rugulosis, ciliis internis in membrana longiore positis perforatis.—*C. Mull. l. c.*

Hab. Venezuela, prov. Caracas, *Moritz.*

46. M. FLACCIDUM (*Mitt.*). Rami elongati, gracillimi, pinnatim ramosi. Folia compressa, lateralia patentia, sublanceolata, subulata, apice in pilum confervoideo-articulatum attenuata, planiuscula, nervo angusto infra medium evanido, marginibus basi flexuosis crenulatis, cellulis angustis obscuris, papillis minutissimis; ramulina apicibus flexuosis distinctius serrulata, papillis evidentioribus.

Hab. Andes Peruvianæ, in monte Guayrapurina (3000 ped.), *Spruce*, n. 1191.

Rami pedales, parce ramosi, flaccidi. Folia pallide luteo-viridia, seniora nigro-fusca obscura.

M. floribundo, Dozy et Molk. Musc. Arch. Ind. t. 53, subsimile.

47. M. VIRIDULUM (*Mitt.*). Caulis procumbens; rami abbreviati, longiores eleganter ramulis decrescentibus patentibus pinnatim ramosi. Folia

ramea patentia, semitorta, e basi latiore subovata sensim angustata, apice acuminata, basi alis inflexis, superne triplicata, nervo ultra medium evanido, marginibus planis integerrimis, cellulis angustis singulis papillis pluribus (circiter sex) notatis obscuriusculis, basi pellucidis lævibus.

Neckera viridula, *Mitt. in Hook. Kew Journ.* iii. 351.

Hab. Andes Quitenses, Quito, *Jameson*; in montibus Guayrapata (9000 ped.), *Spruce*, n. 1262, et Tunguragua (7000 ped.), *Spruce*, n. 1263.

Rami 2–3-unciales, ramulis longioribus ½-uncialibus. Folia viridia, seniora pallide fuscescentia.

Trachypodi bicolori Reinw. et Hornsch., Schwægr. t. 318, Indiæ orientalis, simile sed paululo gracilius.

48. M. PATULUM (*Sw. Prodr. Fl. Ind. Occ.* 140, Hypnum; *Hedw. Sp. Musc.* t. 73; *Dozy et Molk. Prodr. Bryol. Surinam*, t. 10). Caulis procumbens, cæspitosus, ramis brevibus ramosus. Folia patula, nervo tenui ultra medium evanido, margine minute serrulata subintegerrimave, cellulis basilaribus ad angulos ovoideis obscurioribus, spatium parvum rotundatum impressum occupantibus, reliquis elongatis angustis pellucidis; ramea late ovata, brevius acuminata; perichætialia erectiuscula, ovali-lanceolata, subulata, enervia, apicibus ad basin usque thecæ productis. Pedunculus rectus, lævis. Theca ovali-cylindracea, æqualis, operculo subulirostro, peristomii dentibus angustis, processibus æquilongis angustis, in membrana brevi exserta impositis; calyptra paulo infra os thecæ descendens, ramentis elongatis appressis pilosa.

Hab. Ins. Jamaica, *Swartz, Wilds*; Hispaniola, *Bertero*; Cuba, *Wright*, n. 80; Mexico, *Deppe et Schiede*; Surinam, ex *Herb. Dozy et Molk.* Fl. Negro, in sylvis S. Carlos, *Spruce*, n. 1242 (planta mascula); fl. Casiquiari, *Spruce*, n. 1246. Andes Quitenses, *Jameson*; ad fl. Bombonasa (1500 ped.), *Spruce*, n. 1244, et (1300 ped.) *Spruce*, n. 1247; in monte Chimborazo (4000 ped.), *Spruce*, n. 1245. Andes Peruvianæ, ad Tarapoto (1500 ped.), *Spruce*, n. 1243 et 1249.

49. M. RECURVIFOLIUM (*Hornsch. in Mart. Fl. Bras. Musc.* 58). Folia divaricata recurvaque, basi caulem amplexantia, superne versus apicem caviuscula, nervo tenuissimo ultra medium evanido, margine serrulata, cellulis basilaribus ad angulos paucis abbreviatis obscuris planis, reliquis elongatis angustis; perichætialia parva, recurva. Theca obovata, æqualis, operculo subulato recto; calyptra ramentis longis pilosa.

Neckera patula, *Schwægr.* t. 165.

Hab. Brasilia in Serra d'Estrella ad arbores, *Beyrich* (ex *Hornsch.*).

Species *M. patulo* similis, sed omnibus partibus minor.

50. M. TOVARIENSE (*C. Müll. Syn.* ii. 156, Neckera). Folia caulina acuta, dimidio inferiore erectiore caulem amplexante, superiore reflexo divaricato-concava, nervo tenui medio evanescente, margine serrulata, cellulis angustis linearibus, basilaribus ad angulos paucis impressis; ramea apice obtusiora, concaviora, apiculo brevi recurvo; perichætialia oblonga,

apice inæquali subulata. Theca cylindracea, operculo subulato obliquo, peristomii dentibus angustissimis elongatis nodoso-articulatis, interni processibus angustis æquilongis pertusis punctulatis, in membrana brevi impositis.

Hab. Venezuela, Tovar (5500 ped.), *Moritz*, n. 175. Andes Quitenses, in sylva Canelos (4000 ped.), *Spruce*, n. 1234.

Statura omnibus partibus *M. patulo* duplo majus. Habitus idem. Folia adeo curvata ut vix nisi læsu explanentur.

This may be identical with *M. patens*; but the specimens of that moss are too incomplete to render it safe to refer the present one to it with certainty.

51. M. PATENS (*Hook. Musc. Exot.* t. 56, Hypnum). Folia ramea acuta, concava, nervo tenui ad medium usque producto, margine serrulata, cellulis elongatis angustis, basilaribus ad angulos paucis brevibus flavescentibus impressis.

Hab. Nova Granata, in convallibus Andium inter Almaguer et Pasto (4800–6000 ped.), *Humboldt et Bonpland.*

Species e ramis tantum nota.

52. M. IMPLANATUM (*Mitt.*). Folia caulina rameaque a basi brevi erecta patentia, basi caulem amplexantia, inde recurva ut folium a medio ad apicem usque planiusculum efficiant, nervo medio evanido, margine serrulata, cellulis ad angulos paucis rotundatis, superioribus elongatis angustis; perichætialia erectiuscula, a basi oblonga nervata, subulata, apice denticulata. Theca ovalis, æqualis, peristomii dentes angusti, flavidi, noduloso-articulati, processibus internis æquilongis angustissimis pertusis, papillis minutissimis asperulis.

Hab. Brasilia, ex *Herb. Sowerby*; Sierra dos Orgaos, ad rupes, *Gardner*; prope Castro in sylvis ad arborum truncos (2000 ped.), *Weir*, n. 82.

M. recurvifolio statura aspectuque simillimum, folia autem diversissima.

53. M. ONUSTUM (*Spruce*). Folia caulina a basi amplexante squarrosa, nervo tenui ultra medium producto, margine serrulata, cellulis basilaribus ad angulos paucis ovoideis aggregatis impressis, reliquis angustis pellucidis; ramea recurvata, suborbiculata, acuta, infra apicem caviuscula, margine serrulata; perichætialia lanceolata, recurva. Theca in pedunculo æquilongo, ovalis, erecta, operculo subulato, peristomii dentibus elongatis angustis, superne minute dense papillosis, interni processibus brevioribus angustis, inferne pertusis, in membrana brevissime exserta impositis; calyptra pallida infra os thecæ descendens, ramentis elongatis.

Hab. Andes Peruvianæ, ad Tarapoto in rupibus umbrosis rivuli Shillicaio (2000 ped.), *Spruce*, n. 1250.

M. patulo valde affine, statura autem paululo minore, foliis ramulinis apice latioribus perichætialibus brevioribus, pedunculo lævi et peristomio diversum.

54. M. AURONITENS (*Hornsch. in Mart. Fl. Bras.* ii. 59). Caulis assurgens, rigidus, ramis erectis brevibus secundis subgracilibus stramineis. Folia caulina patentissima, laxe imbricata, e basi marginibus conniventibus parum reflexis maxime coarctata, brevissima, utrinque ad alas subventricose impressa, acumine semel torto breviusculo, planiuscula, margine erecto ubique serrulato, nervo tenui flavido evanido, cellulis angustissime linearibus longiusculis pellucidis, alaribus ad alas impressas vix ullis.—*C. Müll.*

Pilotrichum auronitens, *C. Müll. Syn.* ii. 156.

Hab. Brasilia æquinoctialis, *Martius.*

55. M. STRAMINEUM (*C. Müll. Syn.* ii. 157, Pilotrichum). Caulis elongatus, repens, piliformis, ramis brevissimis simplicibus subapproximatis squarrosifoliis subgracilibus stramineis nitidis pinnatus. Folia caulina basi haud coarctata, apice acuminata, carinata, margine ubique erecto serrulato, nervo tenui ante apicem evanido, cellulis angustissime linearibus, alaribus subnullis.—*C. Müll. l. c.*

Hab. Chili, foliis adhærens, *Pœppig.*

M. auronitente simillimum.—*C. Müll. l. c.*

56. M. SINUATUM (*C. Müll. Syn.* ii. 139, Neckera). Caulis ramis primariis turgidis obtusis brevibus v. pendulis flaccidis valde flexuosis tenuibus, brevibus v. longioribus flexuosis capillaceis pallide albidis. Folia laxe imbricata, tenera, ramorum primariorum flagellorum e basi late ovata, auriculis undulatis parvis subdecurrentibus, cellulis alaribus teneris pellucidis minutis paucis instructis prædita, late lanceolata, longe flexuose acuminata, pellucida, marginibus ubique valde undulatis denticulatis, nervo tenuissimo breviusculo instructa, planiuscula, parum plicata.—*C. Müll. l. c.*

Hab. Mexico, inter *M. cochlearifolium* crescens, *Ehrenberg.*

57. M. WIDGRENIANUM (*Angst.*; *C. Müll. in Bot. Zeit.* 1856, 438, Pilotrichum). Longe pendulum, gracile, flexuosum, virescens, ramis inæqualibus brevibus decurvatis remotis divisum. Folia subsquarrosa, conferta, e basi marginibus subconniventibus angustata, subito latissime dilatata, igitur veluti hastata, margine valde convexa, inæqualia, vix denticulata, planiusculo-concava, nervo tenui evanido, cellulis virentibus lævissimis linearibus.

Neckera cordata, *Hornsch.*

Hab. Brasilia, *Sellow, Widgren.*

Ex habitu *M. molli* aliquantulum simile, ex analogia foliorum forma ad *Meteoria* certe pertinens, ab omnibus congeneribus foliis hastato-lanceolatis diversum.—*C. Müll. l. c.*

58. M. AMBIGUUM (*Hornsch. in Mart. Fl. Bras.* ii. 59). Caulis filiformis, vage ramosus, elongatus, flaccidissimus, remotissime foliosus, ramis simplicibus flaccidis lutescentibus nitidis apice gemmaceo-foliosis. Folia distantia, e basi brevi, ad alas utrinque parum impressa, cellulis alaribus laxius et pellucidius reticulata, coarctata, caviuscula, acumine longo semel torto terminata, margine erecto ubique denticulato, nervo tenuissimo ante

apicem evanido, cellulis angustissime linearibus.—*C. Müll. Syn.* ii. 158 (Pilotrichum).

Hab. Brasilia australior, *Sellow.*

59. M. REMOTIFOLIUM (*Hornsch.*; *C. Müll. Syn.* ii. 672, Neckera). Folia remotiuscula, squarrosa, planiuscula, marginibus serrulatis basi recurvis, nervo ultra medium evanido, cellulis basi ad angulos paucis majoribus, reliquis angustis elongatis; perichætialia e basi oblonga nervata longe subulata, apicibus denticulatis. Theca ovalis, operculo subulato curvato, peristomii dentibus brevibus intus trabeculatis, interni processibus æquilongis latis pertusis, in membrana brevi positis; calyptra pallida, apice scabra.

Hab. Mexico, Xalapa, *Deppe et Schiede*; Venezuela, *Moritz.* Andes Bogotenses, in sylvis supra Pacho, ad arbores abundans (6000 ped.), *Weir*, n. 130. Brasilia, *Klotsch in Herb. Hooker*; Parana, Fazenda do Montenegro, in sylvis ad arbores (2400 ped.), *Weir*, n. 41.

Statura *M. recurvifolio* simile a quo foliis a basi infima divergentibus nec caulem amplexantibus statim dignoscitur.

60. M. CONSIMILE (*Hampe in Ann. Sc. Nat.* ser. 5. iv. 360, Neckera). *M. remotifolio* consimile, sed gracilius et colore pallidius. Folia fere sursum remote denticulata, patula, nervo tenui pallido supra medium evanido, cellulis alaribus paucis laxioribus hyalinis, cæteris linearibus, tota pallide flavescentia; perichætialia accumbentia, angustiora. Theca urceolata, operculo umbonato-acuminato brevirostro.—*Hampe, l. c.*

Hab. Andes Bogotenses, in sylvis Manzanos (2700 metr.), ad arbores, *Lindig.*

A *M. remotifolio* differt gracilitate et colore pallidiore, foliis tenuioribus minus squarrosis et theca breviore suburceolata quoque operculo breviore.—*Hampe, l. c.*

61. M. TENUISSIMUM (*Hook. et Wils. in Hook. Lond. Journ.* v. 453, t. 15 E, Cryphæa). Rami penduli, elongati, gracillimi, capillares, pinnatim ramosi. Folia remota, patentia, nervo ultra medium evanido, marginibus subintegerrimis basi subrecurvis, cellulis angustis; ramulina lanceolata, acuminata, serrulata; perichætialia e basi latiore subulata, longe attenuata, subserrulata. Theca ovalis, æqualis, operculo breviter oblique rostrato, peristomii dentibus luteis, interni processibus æquilongis carinatis pertusis, in membrana ad quartam dentium longitudinem exserta; calyptra paululum infra basin operculi descendens.

Hab. Andes Bogotenses, in descensu a planitie Bogotensi ad Fusagasuga, locis humidis ad ramulos arbuscularum (5000 ped.), *Weir*, n. 118. Andes Quitenses, Quito, *Jameson*, in sylva Llalla (9000 ped.), *Spruce*, n. 1235.

Rami 3–15 uncias longi, penduli. Pedunculus sub 3-linearis.

62. M. BREVISETUM (*Mitt.*). Rami graciles, pinnati. Folia acumine angusto semitorto, nervo ultra medium evanido, marginibus superne serru-

latis basi recurvis, cellulis angustis elongatis ad angulos paucis brevioribus; ramulina patentia, ovato-lanceolata, flexuoso-acuminata; perichætialia elongata, interna e basi oblongo enervi subulato-attenuata, apicibus serrulatis. Theca in pedunculo ejusdem longitudinis, ovalis, operculo subulirostrato, peristomii dentibus angustis flavis, interni processibus angustissime attenuatis carinatis lævibus æquilongis, in membrana brevi exsertis.

Hab. Andes Quitenses, in sylva Llalla (9000 ped.), *Spruce*, n. 1220.

Rami penduli ramulique flexuosi. Folia nitida viridia lutescentia, seniora fusca.

Sect. 2. *Aerobryum*, Dozy et Molk. Bryol. Javan.

Musci peristomio interno membrana basilari latiore.

63. M. ACICULATUM (*Tayl. in Hook. Lond. Journ. of Bot.* vi. 339, Leskea). Monoicum, rami ramulis divergentibus pinnati, suberecti, procumbentes pendulive. Folia patentia, ovato-lanceolata, subacuminata, nervo ultra medium evanido, marginibus serrulatis, basi apiceque recurvis, cellulis oblongo-ellipticis; ramulina erecto-patentia, anguste lanceolata, argutius serrulata; perichætialia erecta, caulina non excedentia, lanceolata, acuminata, serrulata, enervia. Theca in pedunculo tenui breviusculo scabro, ovalis, inclinata, operculo oblique rostrato, peristomii dentibus flavis intus trabeculatis, interni processibus æquilongis, per lineam medium fissis, in membrana ad $\frac{1}{6}$ exsertis.

Hab. Andes Quitenses, Quito, *Jameson*; in montibus Chimborazo ad ramulos (4000 ped.), *Spruce*, n. 1221, et Tunguragua (8000 ped.), *Spruce*, n. 1222; in valle fluvii Pastasa, ad prædium Antombos (5000 ped.), *Spruce*, n. 1223; prope Banos (6000 ped.), *Spruce*, n. 1224; in sylva Canelos (3000 ped.), *Spruce*, n. 1225; in montibus Titaicun (11,000 ped.), *Spruce*, n. 1226 (legit *Jameson*), *Spruce*, n. 1227; Tunguragua ad arbores (8000 ped.), *Spruce*, n. 1228, 1230, et Guayrapata (9000 ped.), *Spruce*, n. 1231. Andes Peruvianæ, in sylva prope Tavalosos (2500 ped.), *Spruce*, n. 1229.

Rami 1–4-unciales, ramulis $\frac{1}{2}$-uncialibus. Folia viridia nigro-fuscescentia. Pedunculus 3-linearis.

64. M. DEBILE (*Wils.*; *Mitt. in Hook. Kew Journ.* iii. 352). Monoicum; rami graciles elongati ramulisque flexuosis bipinnati, laxi. Folia erecto-patentia, ovato-lanceolata, sensim tenuiacuminata, planiuscula, nervo tenui medio evanido, margine superne serrulato basi subrecurvo, cellulis ellipticis teneris; ramulina patentia, argutius serrulata, nervo breviore; perichætialia erecta, caulinis breviora, ovalia, acuminata, enervia, integerrima. Theca in pedunculo brevi scabro, oblongo-cylindracea, inæqualis, inclinata, operculo conico subacuminato, peristomii dentibus processibusque æquilongis luteis, linea media notatis, interdum basi pertusis, in membrana breviter exsertis.

Hab. Andes Quitenses, Quito, *Jameson*; in monte Guayrapata e ramulis pendulum (9000 ped.), *Spruce*, n. 1233.

Rami 4–10 uncias longi, ramulis valde subgeniculato-flexuosis. Folia juniora pallide luteo-viridia subnitentia, seniora fuscescentia. Pedunculus 2-linearis.

M. aciculato florescentia foliis et fructu simillimum, sed habitu magis prolixo diversum.

81. FONTINALIS, Dill. 254.

Musci foliis junioribus viridibus, senioribus nigrescentibus, e cellulis angustissimis areolatis. *Habitatio* in aquis fluitans, basi lapidibus affixa.

F. BOGOTENSIS (*Hampe in Ann. Sc. Nat.* ser. 5, iv. 351). Folia undique inserta, ovato-lanceolata, concava, apice obtusiuscula, in ramulis superioribus acuta, cellulis elongatis parietibusque angustissimis areolata.

Hab. Andes Bogotenses, *Lindig et Cuervo*; Paramo inter Tipaquira et Pacho (9000 ped.) in rivulo, *Weir*, n. 284; Peruvia, *Ruiz et Pavon.*

F. squamosæ Europæ et Americæ borealis similis, sed ab ea et speciebus affinibus foliis teretiuscule imbricatis cellulis angustissimis diversa.

82. HYDROPOGON, Brid. i. 770.

Musci foliis laxe areolatis exsiccatione contractis. Thecæ parvæ, inconspicuæ. *Habitatio* in aqua.

Theca gymnostoma..........................	1. *H. gymnostomum.*
Theca peristomata	2. *H. fontinaloides.*

1. H. GYMNOSTOMUM (*Bruch et Schimp. Bryol. Europ. Fontinaleæ*, t. 1, Fontinalis). "Monoicus; caulis longe fluitans, mollis, tener, flaccidissimus, pallescens, valde pinnatim ramosus, ramis elongatis iterum pinnatis. Folia caulina remota, e basi longiuscule angusta ovata, obtuse acuminata, integerrima, enervia, margine erecto cellulis laxissimis mollibus, pellucidis, primum utriculo primordiali tenero repletis; perichætia in ramulo densius folioso longiusculo gracillimo angustissima, foliis magis lanceolatis et acuminatis. Theca immersa, cylindracea, æqualis, exannulata, leptoderma, mollis, operculo planiusculo recte rostellato; calyptra conica, lævis."—*C. Müll. Syn.* ii. 152.

Hab. Guiana Anglica, *Schomburgk.*

2. H. FONTINALOIDES (*Hook. Musc. Exot.* t. 2, Grimmia). Monoicum; caulis basi affixus, fluitans, elongatus, ramis brevibus pinnatus. Folia caulina laxe appresse imbricata, late ovalia, breviter apiculata, parum concava, margine inferne reflexa, apice serrulata, subtorta, nervis binis brevibus divergentibus, cellulis oblongis mollibus pellucidis; involucralia oblonga, acuta, margine recurva; perichætialia minora, anguste oblongo-elliptica, apice serrulata, margine recurva. Theca immersa, parva, ovalis, sessilis, operculo convexo brevi rostellato, peristomii dentibus brevibus 16 pallidis; calyptra elongato-conica, acuminata, integra, fusca, rostellum operculi tantum obtegens. Flos masculus minutus, gemmaceus.

Hab. Fl. Orinoco inter Atures et San Fernando ad arbores quarum radices aquis obtectæ sunt, *Humboldt et Bonpland, Spruce,* n. 1311. Fl. Amazon, paulo infra fl. Negro ostia, in ramis inundatis, *Spruce,* n. 1310*b*; fl. Casiquiari superior, in saxis ramisque inundatis vulgatissimum, *Spruce,* n. 1309, et forma gracilior, *Spruce,* n. 1310, etiam ad fl. Amazon, Solimões, Japurá, et Rio Negro, *Martius,* sec. *Hornschuch.*

Caules fluitantes prolixi interdum pedales foliis caulinis sæpe destructis, riparii autem abbreviati fasciculatim ramosi. Folia pallide obscure viridia, siccitate contracta.

83. LEPTODON, Brid. ii. 197.

L. SMITHII (*Dicks. Fasc.* ii. 10, t. 5. f. 4). Rami in cæspitem congesti, humidi explanati, sicci cito involuti, circinati. Folia late ovalia, obtusa, nervo supra medium evanido, margine inferne recurva, integerrima, cellulis rotundis inter se latius discretis; perichætialia erecta, ovato-subulata. Theca in pedunculo perichætio parum longiore, elliptica, operculo rostrato, peristomii dentibus pallidis teneris; calyptra pilosa.

Hab. Chili, Colchaque.

Found also in S. Africa and New Zealand.

84. NECKERA, Hedw. Fund. ii. 93.

Musci ramis adscendentibus plumæformi-pinnatis. Folia compressa, distichacea, verticaliter implana, seriebus mediis intermediisque interdum obsoletis, e cellulis sæpe abbreviatis firmis areolata. Fructus ex inferiore latere ramorum ramulorumque oriundus. *Habitatio* ad arbores, rarius ad terram.

Sect. 1. HIMANTOCLADIUM. *Folia tetrasticha, seriebus mediis intermediisque utroque latere obsoletis.*

Subsect. 1. PARAPHYSANTHUS. *Theca e perichætio parvo exserta, paraphysibus foliiformibus elongatis cincta.*

Calyptra nuda.
  Folia oblongo-ligulata .... 1. *N. disticha.*
  Folia basi subcordata, alis inflexis .... 2. *N. amazonica.*
Calyptra ramentacea.
  Folia oblonga, planissima .... 3. *N. Pabstiana.*
  Folia basi subcordata, undulata .... 4. *N. undulata.*

Subsect. 2. TÆNIOCLADIUM. *Theca in foliis perichætialibus ampliatis immersa.*

Species unica .... 5. *N. foveolata.*

Sect. 2. RHYSTOPHYLLUM. *Folia in seriebus* 10 *disposita, lateralia diversiformia, binervia.*

Theca immersa.
  Rami paraphyllis nullis.
    Folia perichætialia elliptica, subenervia, apice subulata serrulata.
      6. *N. Ehrenbergii.*

Folia perichætialia latissime lanceolata, longe acuminata, denticulata. 7. *N. Hornschuchiana.*

Folia perichætialia elliptica, breviter acuminata, integerrima. 8. *N. Berteroana.*

Folia perichætialia late ovata, in acumen longum planiusculum denticulatum attenuata .... 9. *N. chlorocaulis.*

Folia perichætialia longe latiuscule acuminata, concava, apice falcata. 10. *N. angustifolia.*

Folia perichætialia elliptica, sensim angustata integerrima. 11. *N. bogotensis.*

Folia perichætialia.... Dentes peristomii linea media secedente fissiles ....12. *N. scabridens.*

Folia ovato-lanceolata acuta, perichætialia interna oblonga subulata. 13. *N. mollusca.*

Folia.... Theca breviter urceolata ......14. *N. urnigera.*

Folia ovata, acuta, argute serrata ....15. *N. tenera.*

Rami paraphyllis inter folia inspersi.

Folia acuta, perichætialia ovata subulata acuminata integerrima. 16. *N. Lindigii.*

Folia ovato-ligulata, perichætialia elliptica subintegerrima. 17. *N. Spruceana.*

Folia ovali-oblonga, apice rotundata, obtusa, perichætialia elliptica, apice latiuscula basi crenulata ....18. *N. obtusifolia.*

Theca exserta.

Folia ovato-ligulata, acuta, perichætialia interna oblongo-elliptica arcte convoluta ....19. *N. Jamesoni.*

Folia ovato-ligulata, acuta, perichætialia interna oblongo-elliptica laxe convoluta ....20. *N. chilensis.*

Folia ovato-oblonga, obtusiuscula, perichætialia interna elliptico-subspathulata, acuta, laxe convoluta ....21. *N. andina.*

Sect. 3. CRYPHIDIUM. *Folia undique subæqualia.*
Species unica ....22. *N. leucocolea.*

Sect. 1. *Himantocladium,* Mitt. in Journ. Linn. Soc. 1868.

Subsect. 1. *Paraphysanthus,* Spruce, Cat.

1. N. DISTICHA (*Sw. Prodr. Fl. Ind. Occ.* 138; *Hedw. Musc. Frond.* 3, t. 22). Folia distichacea, compressa, divaricata, obtusa, parum undulata, nervo infra apicem evanido, margine minute crenulata, cellulis basilaribus ellipticis, in folii medio oblongis, apicalibus rotundatis; perichætialia externa brevia, ovata, acuminata, interna ramenta linearia, apice serrulata, ad os thecæ cylindraceæ fere sessilis attingentia. Operculum conicum, acuminatum, subobliquum, peristomii dentibus pallidis processibusque æquilongis subcarinatis pertusisque punctulatis pallidis, infra

thecæ os in membrana latiuscula insidentibus; calyptra nuda, parva, latere fissa.

Hab. Andes Bogotenses, in montana fluvii Sogamoza ad arbores (5000 ped.), *Weir,* n. 167. Fl. Amazon, prope Nauta in truncis rivuli inundatis, *Spruce,* n. 1335 *b*; ad fl. Aripecuru, *Spruce,* n. 1335 *c*. Fl. Negro, S. Gabriel ad terram in sylvis, *Spruce,* n. 1332; ad Yurimaguas, in arbuscularum ramulis, *Spruce,* n. 1335. Andes Quitenses, *Jameson*; Andes Peruvianæ, prope Tarapoto, et ad cataractas fl. Huallaga, *Spruce,* n. 1333, 1334. Brasilia, Parana, ad fl. Tibagi (1500 ped.), in arborum truncis, *Weir,* n. 30.

Rami laxe pinnati subsimplicesve. Folia planiuscula vel plus minus longitudinaliter transverseque subundulata.

2. N. AMAZONICA (*Mitt.*). Synoica. Folia disticha, compressa, divergentia, ovato-ligulata, obtusa, nervo angusto infra apicem evanido, marginibus superioribus serrulatis, cellulis basi elongatis medio oblongis apice rotundis; perichætialia parva, ovata, acuminata, paraphysibus foliaceis ad operculi apicem exsertis linearibus. Theca cylindracea, breviter pedunculata, operculo conico acuto obliquo, peristomii dentibus processibusque superne punctulatis æquilongis; calyptra calva.

Hab. Fl. Negro ad S. Gabriel, *Spruce,* n. 1336.

Rami 2–3-unciales, laxe pinnatim ramosi, latitudine cum foliis 1½-lineares. Folia pallide viridia, lutescentia, interdum nigro-purpurascentia.

3. N. PABSTIANA (*C. Müll. in Bot. Zeit.* 1855, 766). Monoica. Folia densissime conferta, veluti equitantia, perfecte disticha lævia, nitida, asymmetrica, baseos ala una ovata plana, altera involuta, latissime ligulata, apice truncato-obtusissima rotundata latiora, medio sæpius acumine rudimentario instructa, subcrenulata, nervo tenui ultra medium percursa, cellulis ellipticis inanibus subincrassatis pallenti-viridibus, infima basi longioribus et parum laxis. Perichætia et theca *N. distichæ* omnino similia; calyptra tenella dimidiata, pilis paraphysiformibus latiusculis strictis hirtissima.

Hab. Brasilia, S. Catharina in sylvis primævis humidis ad ramos arborum ubique, cum *N. disticha* et *N. undulata* associata viget, *Pabst,* ex *Herb. C. Müller.*

Cl. auctor speciem hancce *Omaliæ glabellæ* comparat, discrimen autem nisi in calyptræ hirsutie (quod non vidi) nullum inter specimina authentica et *N. disticham* inveni.

4. N. UNDULATA (*Hedw. Musc. Frond.* 3, t. 21). Folia distichacea, compressa, divaricata, marginibus a basi utrinque caulem amplexantibus, oblongo-ligulata obtusissima angulove obtuso pluries transversim undulata, nervo angusto ad ¾ evanido, marginibus minute serrulatis, cellulis basi elongatis, in folii medio oblongis, apice rotundis; perichætialia inferiora brevia, ovali-acuminata, nervo angusto vel nullo, superiora angusta, linearia, subnervata vel enervia, subserrulata, apicibus ultra os thecæ oblongæ sessilis

productis. Theca operculo conico breviter oblique rostrato, peristomii dentibus processibusque nodulosis luteis punctulatis ad basin liberis; calyptra parva, operculum usque ad basin non obtegente plerumque uno latere profundius fissa, ramentis paucis latis æquilongis.

Hab. Ab America centrali usque ad Brasiliam vulgaris. Fl. Amazon ad Tauaú, *Spruce*, n. 1326 *b*; Parana-miri dos Ramos, *Spruce*; fl. Negro in sylvis S. Gabriel ad saxa, *Spruce*, n. 1326, ad S. Carlos, *Spruce*, n. 1330. Andes Quitenses, in sylvis Cinchonæ ad montis Chimborazo latera (3000 ped.), *Spruce*, n. 1327; fl. Casiquiari, *Spruce*, n. 1328; ad pedem montis Tunguragua (7000 ped.), *Spruce*, n. 1329. Andes Peruvianæ, ad Tarapoto et ad cataractam fl. Huallaga (1300 ped.), *Spruce*, n. 1331.

Rami 2–8-unciales.

Subsect. 2. *Tæniocladium*, Mitt. Journ. Linn. Soc. 1868.

5. N. FOVEOLATA (*Mitt. in Trans. Linn. Soc.* xxiii. t. 5. f. v.). Monoica; rami ramulis paucis pinnati. Folia divergentia, ovato-ligulata, obtusa subretusave, crenulata, pluries transverse undulata, nervo infra apicem evanido, cellulis superioribus parvis ovalibus; perichætialia interna late elliptica, acumine elongato patulo. Theca ovali-cylindracea, brevipedicellata, operculo acuminato; calyptra parva, ramentis obtecta.

Pilotrichum undulatum, *Beauv. Prodr.*

Hab. Brasilia, Rio de Janeiro, ex *Herb. Arnott.*

Species N. *undulatæ* maxime similis, perichætio autem diversa.

Sect. 2. *Rhystophyllum*, Ehrh.; C. Müll. Syn. ii. 46.

Folia nitida, ut plurimum acuta, cellulis angustis areolata.

6. N. EHRENBERGII (*C. Müll. Syn.* ii. 51). Folia distichacea, compressa, divergentia, asymmetrica, undulata, oblongo-lanceolata, acuta, breviter nervata, margine minute serrulata, latere inferiore inflexa, cellulis elongatis versus apicem folii ellipticis. Theca immersa, breviter ovalis, " peristomii dentes externi late lanceolati, robusti, haud fragiles, hyalini trabeculati, læves; interni externis multo breviores, in membrana brevissima positi, basi late apicem versus sensim angustius articulati, densi, basi veluti rotundato-serrati, perforati, hyalini, læves."—*C. Müll. l. c.*

Hab. Mexico, *Ehrenberg.*

Rami 3–4 uncias longi, curvati. Folia viridia fuscescentia, basi nec auriculata neque coarctata.

Ex habitu N. *pennatæ* omnino similis.

7. N. HORNSCHUCHIANA (*C. Müll. Syn.* ii. 51). Monoica; *N. pennatæ* simillima, sed folia basi margine parum revoluta, haud coarctata, subintegerrima; perichætialia vaginantia, acumine latiusculo subtorto subloriformi; peristomii dentes externi *N. Ehrenbergii*, interni e membrana

brevissima externos æquantes, capillares, basi tantum carinati, læves.—*C. Müll. l. c.*

Hab. Mexico, *Deppe et Schiede* (*N. pennata*, Hornsch.).

8. N. Berteroana (*Schimp.*). Folia distichacea, compressa, divergentia, undulata, asymmetrica, ovato-ligulata, acuta, breviter nervata, marginibus minute serrulatis, latere inferiore inflexo, cellulis angustis apice ellipticis; perichætialia interna tenuia, ad medium nervata, apicibus paulo ultra os thecæ productis. Theca ovalis, operculo subulato obliquo, peristomii externi dentibus pallidis angustis linea media notatis, interni processibus æquilongis angustissimis nodulosis, in membrana brevissima impositis; calyptra elongata, operculum usque ad basin non obtegente.

Hab. Chili, ad Quillota, *Bertero*; Arrique, *Lechler*, n. 670.

Rami 2–4-unciales, pinnati.

Habitus *N. Ehrenbergii.*

9. N. chlorocaulis (*C. Müll. Syn.* ii. 663). Monoica; caulis primarius repens, secundarius procumbens virescens, cum foliis teneris pallidis, tener, parce irregulariter pinnatus. Folia asymmetrico-oblonga subacuminata, planiuscula, brevissime binervia, basi margine subrevoluta, e cellulis brevibus mollibus chlorophyllosis, dein chlorophyllo destitutis, areolata, basi decurrentia haud auriculata, apice parum denticulata, rugulosa; perichætialia a basi convolutacea, omnia tenuiter membranacea. Theca immersa, ovalis, majuscula, oblique acuminato-operculata; peristomii dentes externi longi, trabeculati, pallidi, læves, medio subpertusi, interni æquilongi, filiformes, læves, subcarinati.—*C. Müll. l. c.*

Hab. Mexico, prov. Mechoacan, Cerro San Andres, *Von Chrismar.*

A *N. urnigera* simillima theca immersa, a *N. Hornschuchiana* et *Ehrenbergiana* statura gracili tenera, a *N. pennata β. oligocarpa* simillima ramis nunquam flagelliferis, primo adspectu distinguitur.—*C. Müll. l. c.*

10. N. angustifolia (*C. Müll. in Bot. Zeit.* 1847). Monoica; caulis repens; divisiones humiles, parce irregulariter pinnatæ; rami pro plantulæ exiguitate longi, lati, sordide virides, apice vix incurvi. Folia caulina dense imbricata, sicca et madefacta latus unicum spectantia, igitur subinflectentia, e basi vix asymmetrica longe anguste oblongolanceolata, subplanissima, valde rugulosa, superne crenulata, nervis binis inæqualibus longiusculis, cellulis conflatis longiuscule ellipticis; perichætia falcata cauli arcte appressa igitur difficile conspicua, foliis elongate densissime reticulatis. Theca immersa, breviter urceolata, dentibus externis brevibus latiuscule lanceolatis lævibus fuscidulis teneris, læviter articulatis et linea media obsoleta præditis.—*C. Müll. l. c.*

Hab. Mexico, *Herb. Miquel.*

11. N. bogotensis (*Mitt.*). Folia distichacea, compressa, patentia, undulata, asymmetrica, oblongo-lanceolata, acuta, breviter nervata, margine subintegerrimo latere inferiore inflexo, cellulis elongatis; perichæ-

tialia interna erecta, breviter nervata. Theca immersa, ovalis, operculo subulato obliquo, peristomii externi dentibus elongatis angustis, interni processibus æquilongis angustissimis capilliformibus parum nodulosis, in membrana brevissima insidentibus.

Hab. Andes Bogotenses, inter Tipaquira et Pacho (8000 ped.), ad arbores, *Weir*, n. 275.

Rami 3–4-unciales, pinnatim ramosi.

12. N. SCABRIDENS (*C. Müll. Syn.* ii. 51). Monoica; *N. pennatæ* simillima, sed operculum longe oblique rostratum, dentes peristomii externi longissimi, latiusculo-lanceolati, subulati, rugulosi, remote læviter trabeculati, haud fragiles, interni æquilongi rugulosi subsecedentes.—*C. Müll. l. c.*

Hab. Chili australis, in truncis sylvarum umbrosarum ad Antuco, *Pœppig.*

13. N. MOLLUSCA (*Mitt.*). Monoica. Folia distichacea, appressa, patenti-divergentia, asymmetrica, undulata, ovato-lanceolata, acuta, margine serrulata, latere inferiore inflexa, nervis brevibus, cellulis elongatis; perichætialia erecta, convoluta, externa obovato-subulata, interna oblongo-subulata. Theca in pedunculo breviter exserto ovalis, leptoderma, operculo subulato oblique longirostro, peristomii dentibus luteis, processibus æquilongis carinatis, in membrana breviter exserta impositis.

Hab. Andes Quitenses, in monte Titaicun ad saxa (11,000 ped.), *Spruce*, n. 1337; in valle Alausi loco Lucmas (5000 ped.), *Spruce*, n. 1338; ad pedem montis Tunguragua, limite inferiore (5000 ped.), ad Rio Blanco ostia, etiam ad Pallatanga (6000 ped.), *Spruce*, n. 1339.

Rami 4-unciales, curvati, inordinate pinnatim ramosi. Pedunculus 1½-linearis. Theca parva.

A *N. Jamesoni* et *N. chilensi* foliorum perichætialium apicibus elongatis differt.

14. N. URNIGERA (*C. Müll. Syn.* ii. 57). Monoica; caulis secundarius pusillus, tener, ramis longiusculis inordinate et remote pinnatus. Folia caulina distincte denticulata, e cellulis mollibus anguste linearibus composita; perichætialia perpauca. Theca breviter urceolata macrostoma, exannulata, operculo breviter oblique conico; peristomii dentes externi latere læves, interni nodose articulati.—*C. Müll. l. c.*

Hab. Mexico, *Deppe et Schiede* (*N. pumila*, Hornsch.).

15. N. TENERA (*Hornsch. in Mart. Fl. Bras. Musc.* 58). Caulis prostratus v. declinatus, debilis, pinnatim ramosus, ramis brevissimis. Folia subdisticha, remota, erecto-patula, ovata, acuta, argute serrata, concava, amœne viridia, nervo obscuriore infra apicem evanido, cellulis parallelogrammis.—*C. Müll. Syn.* ii. 58.

Hab. Brasilia australis, *Sellow.*

16. N. LINDIGII (*Hampe in Linnæa*, xxxii. 149). Rami in foliorum

axillis paraphyllophori. Folia distichacea, compressa, patentia, ovato-ligulata, asymmetrica, breviter nervata, margine minute serrulato latere inferiore inflexo, cellulis elongatis; perichætialia interna basi lata. Theca ovalis, immersa, operculo conico acuminato, peristomii externi dentibus elongatis latiusculis, superne linea media distinctiore, interni processibus angustis nodulosis æquilongis, in membrana breviter exserta impositis.

Hab. Andes Bogotenses, in plurimis locis (2200–2900 metr.), *Lindig*; in sylvis prope Bogota ad arbores vulgaris (6000–7000 ped.), *Weir*, n. 184.

Rami 3–4-unciales, pinnati. Folia viridia, pallide fuscescentia.

17. N. SPRUCEANA (*Mitt.*). Rami paraphyllis linearibus vestiti. Folia distichacea, patenti-divergentia asymmetrica, angulis anguste decurrentibus, nervis brevibus, margine integerrima, latere inferiore inflexa, cellulis elongatis apice ellipticis; perichætialia interna erecta, acuta, vix crenulata, superne undulata, integerrima, breviter nervata. Theca immersa, ovalis, operculo subulato, peristomii dentibus pallidis, linea notatis, interni processibus angustis æquilongis in membrana brevi positis; calyptra elongata, infra os thecæ descendens.

Hab. Andes Quitenses, in monte Titaicun (11,000 ped.), *Spruce*, n. 1341; in monte Carguairazo (11,000 ped.), *Spruce*, n. 1340.

Rami 4–6-unciales. Habitus *N. Jamesoni*. Folia perichætialia apicem operculi vix vel paululum excedentia.

18. N. OBTUSIFOLIA (*Tayl. in Hook. Lond. Journ.* viii. 193). Rami paraphyllis pluribus brevibus appressis vestiti. Folia distichacea, erecto-patentia, parum asymmetrica, integerrima, margine inferiore inflexa, breviter subindistincte nervata, cellulis elongatis apice ellipticis; perichætialia interna erecta, apice acuta undulata. Theca breviter ovalis, immersa, operculo conico oblique subulato, peristomii interni processibus angustis, quam dentes exterioris tertio brevioribus, ad basin usque liberis; calyptra parva, operculum vix obtegens.

Hab. Andes Bogotenses, *Weir*. Andes Quitenses, in monte Pichincha, *Jameson*; ibidem (alt. 10,000 ped.), *Spruce*, n. 1345.

Rami 3–6-unciales, pinnati, flexuosi, ob folia breviora erectiora quam in affinibus graciliores. Habitu *N. chilensi* similis.

19. N. JAMESONI (*Tayl. in Hook. Lond. Journ.* v. 59.) Folia distichacea, compressa, patentia, asymmetrica, transversim undulata, margine latere inferiore inflexo minute serrulato, nervis brevibus, cellulis omnibus elongatis angustis; perichætialia externa obovata, orbicularia, subito acuminata, acumine patente, interna apiculata in cylindrum convoluta. Theca in pedunculo brevi exserta, ovalis, operculo brevirostro, peristomii interni processibus dentium longitudine in membrana breviter exserta insidentibus.

Hab. Andes Quitenses, *Jameson*; in montibus Pichincha et Chimborazo (10,000–11,000 ped.), *Spruce*, n. 1346. Andes Chilenses, *Pœppig*, n. 28.

Andes Bogotenses, inter Tipaquira et Pacho (8000 ped.), ad arbores, *Weir*, n. 285.

Rami 4–6-unciales, ramulis circiter uncialibus, regulari modo ramulosis. Folia viridia, pallide fuscescentia, pluries undulata, subnitida. Pedunculus 2-linearis.

20. N. CHILENSIS (*Schimp. in Ann. Sc. Nat.* ser. 2. iv. 147, t. 9). Folia distichacea, compressa, patentia, asymmetrica, nervis brevibus, marginibus serrulatis, latere inferiore inflexo, transversim undulata, cellulis elongatis; perichætialia erecta, externa ovata acuta, breviter nervata. Theca in pedunculo brevi exserta, ovalis, peristomii dentibus tenuiter angustatis, processibus æquilongis angustis carinatis.

Hab. Nova Granata, in Sierra Nevada (10,000 ped.), *Funck et Schlim*, n. 871; Chili, ex *Herb. Montagne.* Andes de Raneo, *Lechler*, n. 818. America australis, *Lobb*, n. 108.

Rami 4–6-unciales, ramulis inordinatis nonnullis elongatis pinnatim ramosi. Folia patentia erectoque-patentia.

A *N. Jamesoni* diversa videtur foliis distinctius serrulatis, cellulis minus angustis, perichætialibus externis erectis apicibus non divergentibus, omnibus minus arcte convolutis et peristomii dentibus angustioribus.

21. N. ANDINA (*Mitt.*). Rami phyllidiis angustis sparse vestiti. Folia distichacea, compressa, patentia, asymmetrica, plus minus transversim undulata, breviter nervata, marginibus subintegerrimis, latere inferiore inflexo, cellulis elongatis apice suboblongis; perichætialia erecta, externa oblonga acuminata. Theca ovalis, emergens, operculo conico oblique rostrato, peristomii externi dentibus pallidis, interni processibus dentibus tertia brevioribus, in membrana brevi non exserta impositis.

Hab. Andes Quitenses, *Jameson*, in monte Pichincha (10,000 ped.), *Spruce*, n. 1344.

Rami 6-unciales longioresque, inordinate pinnatim ramosi. Folia patentia, in ramulis erectiora, perichætialia apicibus fere ad thecæ os attingentibus. Theca sæpe lateraliter exserta.

Sect. 3. *Cryphidium.*

22. N. LEUCOCOLEA (*Mitt.*). Rami vage subpinnati parum ramosi. Folia subcompressa, patentia, late ovali-oblonga, obtusissima, excavata, margine ubique recurva, inferne revoluta, nervo supra medium desinente, cellulis basilaribus paucis elongatis, superioribus parvis rotundis densis obscuris; perichætialia oblonga subacuta erecta arcte convoluta pallida, cellulis ellipticis pellucidis areolata. Theca cylindracea, brevissime pedicellata, immersa, peristomii dentes breves; calyptra conica, papillosa, fusca.

Hab. Brasilia, Montevideo, *Gibert*, n. 650.

Rami 1–2 uncias alti, latitudine cum foliis linea angustiores. Folia intense nigro-viridia obscura. Perichætia lineam longa exserta, ob colorem pallidum conspicua.

Species peculiaris, ob folia brevia obscura primo visu *Cryphæis* simillima.

Species dubia.

23. **N. obliquifolia** (*Hornsch. in Mart. Fl. Bras. Musc.* 56). Caulis erectus, bipinnatim ramosus, ramis apicem versus attenuatis patentibus. Folia disticha, patentia, pellucida, pallide viridia, basi obliqua, oblonga, acuta, serrata, nervo concolori infra apicem evanido, anguste lineari-areolata. —*C. Müll. Syn.* ii. 57.

Hab. Brasilia australis, *Sellow.*

85. Homalia, Brid. ii. 325.

Musci foliis lateralibus verticaliter implanis, seriebus mediis intermediisque sæpe obsoletis, e cellulis abbreviatis areolatis. *Habitatio* ad arbores et in terra.

H. glabella (*Sw. Prodr. Fl. Ind. Occ.* 140, Hypnum; *Hedw. Sp. Musc.* t. 59, Leskea). Rami arbusculosi, inordinate ramosi. Folia distiche applanata, patentia, subspathulato-ligulata, obtusa, apiculo brevi, apice denticulata, nervo brevissimo, cellulis elongatis apice ellipticis trapezoideisque.

Hab. Ins. Jamaica, *Swartz,* etiam ex *Herb. Brown;* Mexico circa Xalapa, *Deppe et Schiede.*

Caulis repens, ramos varie ramosos 1–3-unciales latitudine cum foliis 2-lineares prodens. Folia viridia, planissima, nitida.

86. Porotrichum, Brid. ii. 275.

Musci caulibus primariis rhizomatiformibus, ramis e stipite foliis sparsis obtecto superne in frondem ramulosis, ramulis interdum flagelliformi-attenuatis proliferis. Folia undique æqualia vel compressa asymmetricaque, uninervia vel rarius binervia; perichætialia parva, cellulis angustis interdum abbreviatis areolata. Peristomii interni processibus per carinam pertusis ciliisque interpositis dum adsint in membrana insidentibus, calyptra parva. *Habitatio* ad terram et rupes, etiam ad arborum radices.

Sect. 1. Euporotrichum. *Theca erecta vel inclinata, peristomii interni ciliis nullis imperfectisve.*

Folia in ramis primariis secus partem fertilem undique subæqualia.
  Folia ovato-oblonga, obtusa, apiculo minuto .. 1. *P. superbum.*
  Folia late ovato-lanceolata, breviter acuminata.. 2. *P. scoposum.*
  Folia ovato-oblonga, acuta.................. 3. *P. nitidum.*
  Folia oblongo-ovata, acuta, subquadrifaria .... 4. *P. Lindigii.*
  Folia ovata, acuta, latiusculeve apiculata...... 5. *P. plicatulum.*
Folia compressa.
  Folia ovato-oblonga, apice breviter acuminata. 6. *P. longirostrum.*
  Folia late oblongo-ligulata, acuta .... 7. *P. lancifrons.*

Folia orbiculari-ovata, acuta .... 8. *P. denticulatum.*
Folia ovato-ligulata, apiculo parvo sæpe semitorto.
9. *P. striatum.*
Folia late elliptico-oblonga .... 10. *P. leucocaulon.*
Folia oblonga, obtusa, apice apiculo acuto terminata.
11. *P. Korthalsianum.*
Folia e basi angusta sensim dilatata, ligulata .. 12. *P. decompositum.*
Folia ovalia vel ligulato-oblonga, apice acuta .. 13. *P. substriatum.*
Folia ovato-ligulata, apice acuta .... 14. *P. variabile.*
Folia late ovato-ligulata.................... 15. *P. neckeræforme.*
Folia oblongo-ligulata, apice breviter acuminata.
16. *P. insularum.*
Folia e basi angustissima sensim dilatato-ovata, acuta.
17. *P. Thieleanum.*
Folia breviter late ovata, apice rotundata obtusa.
18. *P. minutum.*
Folia late ovato-lanceolata, subintegerrima .... 19. *P. piniforme.*
Folia ovato-ligulata, apiculo parvo terminata .. 20. *P. gymnopodum.*
Folia late oblongo-ligulata, acuta .... 21. *P. sparsiflorum.*
Folia ovalia, acuta .... 22. *P. humile.*
Folia e basi cordata late ovata, acuta .... 23. *P. stolonaceum.*
Folia oblongo-ligulata, apice angulo parvo terminata.
24. *P. cæsium.*
Folia evidenter plicata .... 25. *P. minus.*

Sect. 2. THAMNIUM. *Theca inclinata, peristomio interno perfecto.*
Folia ovato-ligulata obtusa .... 26. *P. expansum.*
Folia ovata acuta .... 27. *P. rigidum.*
Folia oblonga obtusa .... 28. *P. valdiviæ.*
Folia late ovalia, apice angulo lato terminata .... 29. *P. explanatum.*
Folia ovato-ligulata obtusa, apiculo brevi terminata.
30. *P. filiferum.*
Folia ovato-ligulata obtusa .... 31. *P. fasciculatum.*
Folia ovata longe subspathulato-ligulata .... 32. *P. pandurifolium.*
Folia late ovata ligulata breve acuminata........ 33. *P. flagelliferum.*

Sect. 1. *Euporotrichum.*

1. P. SUPERBUM (*Tayl. in Hook. Lond. Journ.* v. 61; *Wils. ibid.* t. 16, Leskea). Rami iterum interumque proliferi, in frondes patenter ramosas pinnatim bipinnatimque expansi. Folia teretiuscule imbricata subcompressave, cochleariformi-concava, nervo tenui ultra medium producto marginibus summo apice tantum crenulatis, cellulis elongatis; ramulina tereti-imbricata, interdum acutiora, in ramulorum apicibus cuspidato-imbricata; perichætialia elongata, erecta, interna e basi elliptico-oblonga enervia sensim acuta. Theca in pedunculo elongato erecta inclinatave, ovalis,

operculo subulato longirostro, peristomii dentibus processibusque elongatis angustis.

P. stolonaceum, *Hampe in Linnæa,* xxxii. 154.

Hab. Columbia, *Funck et Schlim.* Andes Bogotenses, *Lindig,* ad viam inter Tipaquira et Pacho (6000 ped.), ad arbores, *Weir,* n. 248; in sylvis prope Tequendama (7500 ped.), *Weir,* n. 308; ad viam inter Villeta et Bogota (8000 ped.), ad truncos et radices arborum, *Weir,* n. 415. Andes Quitenses, Quito, *Jameson*; in montibus Pichincha (10,000 ped.), *Spruce,* n. 1350; Tunguragua (8000 ped.), *Spruce,* n. 1351.

Rami 3–8-unciales, superne in frondem interdum regulari modo decrescenti-pinnatim ramosam divisi. Folia viridia, flavescentia.

The description given by Hampe of *P. stolonaceum* appears to accord very well with this species, excepting that he says there are solitary short cilia.

2. P. SCOPOSUM (*Hampe in Ann. Sc. Nat.* ser. 5. iv. 374). Surculus repens purpureo-tomentosus; caulis adscendens, basi microphyllina subnudus, humilis, superne ramosissimo-flabellato-dendroideus, ramis crassioribus cum filiformibus mixtis, scoposo-congestis. Folia caulina basi obliqua, concava, apice denticulata, nervo lutescente superne evanido, cellulis basilaribus striatis luteis, cæteris anguste pentagonis brevibus in acumine laxioribus angulato-ellipticis interstitiis crassioribus cinctis; folia ramorum angustiora, ovato-lanceolata vel lanceolata, versus apicem plus minus inciso-serrata vel spinuloso-denticulata, nervo abbreviato furcato demum subevanescente; perichætialia obovata, subito longe acuminata, apice parce denticulata, subenervia, cellulis basi laxioribus hyalina. Seta uncialis, fuscata, apice incrassata. Theca oblique ovato-elliptica, operculo elongato conico-subulato rostrato thecam subæquante; peristomium duplex, annulo cinctum, externum dentibus lanceolato-subulatis flavescentibus integris incurvis, internum ciliis late carinatis, pyramidatis, pallescentibus, superantibus.—*Hampe, l. c.*

Hab. Andes Bogotenses, Guadelupe (2900 metr.) inter frutices, *Lindig.*

P. longirostro Brid. ex habitu simile, sed ramis scoposo-congestis nec pinnatis primo visu recognoscitur.—*Hampe, l. c.*

3. P. NITIDUM (*Hampe in Ann. Sc. Nat.* ser. 5. v. 340, Pilotrichum). Surculus repens stolonifer; caulis humilis, biuncialis, adscendens, dendroideus vel irregulariter pinnatus, basi nudiusculus, stipite squamuloso, fronde pinnata, vel arbuscula radiis 2–3 divisa pallide flavescenti-nitida, ramis subdistiche pinnatim dispositis attenuatis, dense foliatis. Folia indistincte imbricata, cymbiformi-concava, apice parce denticulata, hyalina, nervo aureo basi crassiore supra medium attenuato evanescente, basi subtruncata parum vel vix auriculata, cellulis basilaribus anguste ellipticis condensatis aureis, cæteris hyalinis brevibus linearibus, in apice folii ellipticis parum incrassatis.—*Hampe, l. c.*

Hab. Andes Bogotenses, Tequendama (2500 metr.) in sylvis, *Lindig.*

4. P. Lindigii (*Hampe in Ann. Sc. Nat.* ser. 5. v. 341, Pilotrichum). Surculus longe repens, prolifer; caulis humilis, erectus, dendroideo-pinnatus, basi nudus, ramis brevibus subdistichis flabellam ovatam vel triangularem formantibus. Folia dense imbricata, cucullato-concava, apice denticulata, nervo mediocri supra medium evanido, cellulis linearibus, versus apicem folii brevioribus hyalina, basi parum auriculata cellulis parvis intense aureis dense confertis notata.—*Hampe, l. c.*

Hab. Andes Bogotenses, Pacho (2200 metr.), *Lindig.*

P. nitidum et *P. Lindigii* ambæ species ex affinitate *P. filicini* sed satis diversæ, inter generis incertes adnumerandæ.—*Hampe, l. c.*

These two species are compared, as it would seem, to the *Neckera filicina* of Hedw.; but the descriptions appear to indicate rather a greater affinity to *Porotrichum superbum*, which, in some states, is much more compact and has leaves very much hollowed.

5. P. plicatulum (*Mitt.*). Rami graciles, stipite foliis triangularibus reflexis sparsis vestito, superne in frondem lanceolatam triangularemve decrescenti-pinnatim divisi. Folia undique patentia compressave, superne plicis plus minus evidentibus longitudinaliter exarata; ramulina conformia, nervo infra apicem abrupto ibique dorso prominulo, margine infra medium usque ad basin recurva, superne serrulata, cellulis elliptico-oblongis, parietibus angustis, limitibus minute nodulosis.

Hab. Ins. Trinidad, in sylvis Arima, *Purdie*; Chaguanas, *Black.*

Rami 1–1½ unciam alti, interdum ramulos filescentes prodentes. Folia rigidula sed tenera.

6. P. longirostrum (*Hook. Musc. Exot.* t. 1, Neckera). Rami inferne nudi vel foliis ovatis acuminatis patenti-recurvis remotis, superne rami breves vel longiores in frondem bipinnatam divisi. Folia superiora compressa, distiche patentia, planiuscula, serrulata, nervo infra apicem evanido; ramulina oblonga, acuminata, argutius serrata, basi latere inferiore inflexa, omnia cellulis oblongis areolata; perichætialia interiora elongata, erecta, convoluta, breviter nervata, oblonga, subulato-acuminata, exteriora brevia apicibus recurvis. Pedunculus elongatus. Theca ovalis, erecta suberectave, operculo subulirostro, peristomii interni processibus perforatis, in membrana ad tertiam partem dentium longitudinis exserta impositis.

Hypnum floridum, *Tayl. in Hook. Lond. Journ.* vi. 339.

Hab. In jugis Andium regionis temperatæ, *Humboldt et Bonpland.* Andes Bogotenses, in sylvis supra Pacho, ad arbores (6000 ped.), *Weir*, n. 258. Andes Quitenses, *Jameson*, in sylva Canelos et monte Guayrapata, in terra lignisque (4000–9000 ped.), *Spruce*, n. 1361; in sylva Canelos ad rivulum Verde (4500 ped.), *Spruce*, n. 1362; in sylva Llalla (9000 ped.), *Spruce*, n. 1363.

Rami stipite unciali vel longiore, in frondem nunc abbreviatam ramulis paucis latis foliis magnis divisi, vel ramulis pluribus confertis attenuatis parvifoliis, nunc ramulis omnibus longe attenuatis valde variantes. Folia vix nitida, viridia. Pedunculus uncialis vel longior. Theca satis magna fusca.

This most variable species differs so much in appearance, from the greater or less division of its fronds, that it is probably already described under several names. In C. Müller's 'Synopsis,' ii. 223, the internal peristome is described with single cilia interposed between the processes; and Dr. Taylor described his *Hypnum floridum* with two very short ones.

7. P. LANCIFRONS (*Hampe in Linnæa*, xxxii. 158, Hypnum). Dioicum, dendroideum, distiche ramosum, lanciformi-frondosum ; caulis e surculo horizontali fusco tomentoso repente erectus, basi nudiuscula purpurascente vel infra frondem foliis minoribus ovatis acutis laxe obtectus tandem distiche pinnatim ramosus, ramulis attenuatis. Folia distiche imbricata, lateralia e basi uno latere parum inflexo, apice evidenter inciso-serrata, nervo lutescente supra medium evanido, cellulis linearibus lutescenti-diaphana. Setæ (3–4 in fronde) glabræ, erectæ, unciales, rubræ. Theca ovata, parum curvata, adscendens, operculo brevi conico rostrato, peristomii dentibus externis brevibus lanceolatis acuminatis diaphanis luteis, interioris cruribus carinatis pallidis, ciliis geminis interpositis.

Hab. Andes Bogotenses, in sylvis Manzanos (2700 metr.), *Lindig.*

8. P. DENTICULATUM (*Mitt.*). Rami superne in frondem bipinnatam ramulosi. Folia in stipite triangularia brevia, reflexa, marginibus reflexis, in media parte superiore distiche compressa, marginibus inferioribus reflexis, superioribus denticulatis, nervo ad $\frac{3}{4}$ evanido, cellulis basi paucis elongatis, reliquis parvis ovoideis apice brevioribus; ramulina minus compressa, late ovalia, acuminata, argutius denticulata, caviuscula, nervo apice exstante; perichætialia majora, interna e basi lata oblonga, nervo obsoleto, subito in acumen angustum elongatum producta. Theca in pedunculo elongato, ovalis, collo sensim attenuato, inclinata, operculo oblique subulato.

Hab. Brasilia, in Sierra inter Antonina et Corritiba (1500 ped.) ad arborum truncos in locis humidis, *Weir*, n. 69.

Rami stipite unciali, foliis pallidis remotis reflexis ubique vestito, superne in frondem planam eleganter decrescenti-bipinnatim ramosi. Folia intense viridia, parva, cellulis parvis utriculo repletis mollibus. Pedunculus 9-linearis ruber. Theca pro planta satis magna.

9. P. STRIATUM (*Mitt.*). Rami superne in frondem bipinnatam divisi. Folia ramea distichacea, compressa, superne undulata striisque parvis notata, nervo infra apicem evanido, marginibus inferioribus recurvis, superioribus serrulatis, apice denticulata, cellulis elongatis angustis, apice paucis latioribus ellipticis; ramulina breviora, apice acutiora.

Hab. Brasilia, in Sierra inter Antonina et Corritiba (1800 ped.) ad rupes, *Weir*, n. 76.

Rami stipite unciali inferne nudo, superne foliis parvis ovatis patentibus inde in frondem triuncialem planiusculam expansi. Folia viridia, nitida.

10. P. LEUCOCAULON (*C. Müll. in Bot. Zeit.* 1847, 827, et *Syn.* ii. 42, Neckera). Dioicum, ramosissimum; rami adscendentes dendroidei compressi; caulis inferne nudus et foliis albidis dense imbricatis latissimis vaginanti-squamæformibus breviter acutis evanidinervibus arctissime obtectus, superne ramis dichotome divisis attenuatis longiusculis. Folia basi subobliqua, caviuscula, margine inferne revoluto apice serrulato, cellulis brevibus angustis subincrassatis mollibus viridiusculis.—*C. Müll. l. c.*

Neckera dendroides, *Mont. in D'Orbigny, Voy.* vii. 2. 110?

Hab. Chili, in truncis sylvarum opacarum inter Antuco et Rio Rucué, *Pœppig*, coll. 3. n. 270.

P. javanico et *P. dendroidi* Hook. Musc. Exot. t. 69, simile.

11. P. KORTHALSIANUM (*Dozy et Molk. Prodr. Bryol. Surin.* t. 9). Rami graciles, superne in frondem planam bipinnatam ramosi. Folia ramea compressa, longitudinaliter parce undulata, apice denticulata, marginibus basi uno latere anguste reflexis, altero recurvis apicem versus serrulatis, nervo ultra medium evanido, cellulis inferioribus ellipticis, superioribus ovoideis; perichætialia interna e basi latiore subulata recurva. Theca in pedunculo brevi, ovalis, "subgibbosa," operculo brevi conico acuminato subobliquo.

Hab. Surinam, ex *Herb. Dozy et Molkenboer.*

Rami 2-unciales. Folia nitida.

12. P. DECOMPOSITUM (*Brid.* ii. 764, Pterygophyllum). Caulis repens, divisiones erectæ 2–3-unciales, bi- tripinnatæ dendroideæ veluti frondosæ, inferne nudæ et foliolis squamæformibus remotis obtectæ, lutescentes. Folia caulina magna, ramea minora, omnia laxe imbricata, oblique inserta, apice grosse excise serrata, planiuscula, nervo tenui pallido ad medium producto, cellulis pallidis incrassate ellipticis, alaribus haud conspicuis.—*C. Müll. Syn.* ii. 42.

Hab. Ins. Hispaniola, *Herb. Desvaux et Brid.*

P. javanico proximum.—*C. Müll. l. c.*

13. P. SUBSTRIATUM (*Hampe in Ann. Sc. Nat.* ser. 5. v. 340, Neckera). Surculus repens; caulis sesquiuncialis, adscendens, subpinnatim ramosus, distichus, pallescenti-viridis, ramis irregulariter dispositis, angustis, parum attenuatis, distiche foliatis. Folia substriata, basi parum inæqualia, latere interno inflexa, apice dentato-serrata, nervo solido versus apicem evanido, cellulis basilaribus brevibus, linearibus, versus apicem minoribus, angulatis subpapillatis; folia caulina primaria latiora, lingulata, oblonga, breve acuminata, parce dentata, nervo crasso apice evanido, cellulis lævioribus minoribus.—*Hampe, l. c.*

Hab. Andes Bogotenses, San Antonino (1400 metr.), *Lindig.*

Inter Neckeras leiophyllas *N. australasiæ* affinis, an *N. dendroides*, Montagne?—*Hampe, l. c.*

14. P. VARIABILE (*Hampe in Ann. Sc. Nat.* ser. 5. iv. 375). Rami bipinnatim ramosi. Folia disticha, compressa, planiuscula, striis paucis longitudinaliter notata, marginibus inferne incurvis, fere toto ambitu minute crenatis, apice denticulatis, nervo ultra medium producto, cellulis elongatis angustis apice paucis ellipticis; ramulina angustiora, ulteriora minus compressa, acutiora; perichætialia breviuscula, interiora e basi erecta oblonga, subito subulata, recurva. Theca in pedunculo ea duplo longiore, ovalis, inclinata, operculo subulato curvirostrato; peristomium illi *P. longirostri* simile.

Neckera flabellata, *Hampe in Linnæa*, xxxi. 525.

Hab. Andes Bogotenses, in sylvis super Pacho (6000 ped.), ad truncos ramosque arborum copiosum, *Weir*, n. 132.

Rami 3-unciales proliferi, in frondem planiusculam expansi. Folia viridia, subnitida. Pedunculus 1½-linearis, apice curvatus.

15. P. NECKERÆFORME (*Hampe in Ann. Sc. Nat.* ser. 5. v. 309, Hypnum). Monoicum, robustum, inferne nudum, fuscum, glabriusculum vel parce squamis hyalinis obtectum, superne flabellato-distiche ramosum, elatum, spithamæum; ramis simplicibus vel pinnatis obtusioribus, superioribus attenuatis, elongatis, rufescenti-viridibus, parum nitentibus. Folia inferiora late ovata, acuta, integerrima, enervia, lateralia ramorum e basi obliqua, uno latere inflexa, late ovato-ligulata, apice denticulato-serrata, nervo rufescente supra medium evanescente, cellulis linearibus, nodulis punctatis adspersis, in acumine foliorum abbreviatis laxioribus angulato-ellipticis, tota flavescenti-diaphana; perichætialia pallescentia, laxe imbricata, exteriora reflexa breviora, interiora longiora erecta, oblongo-ovato-lanceolata, longe acuminata, integerrima, subenervia, cellulis laxioribus elongatis pellucida. Seta glabra, brevis, perichætium duplo superans, rubra. Theca subinclinata, turgida, ovata (deoperculata); peristomium breve, externi dentibus late lanceolatis, acuminatis, dense trabeculatis, solidis, interni membrana producta carinata flavescens, cruribus lanceolatis carinatis remote trabeculatis, ciliis basi bicruribus elongato-filiformibus.—*Hampe, l. c.*

Hab. Andes Bogotenses, Choachi (2600 metr.) in sylvis, *Lindig.*

Compared by Hampe to *P. fasciculatum*; but of its affinity to *P. variabile*, from which in its description it scarcely differs, he is silent.

16. P. INSULARUM (*Mitt.*). Rami elongati, stipite basi foliis acuminatis patulis, superne laxe pinnatim ramosi. Folia compressa, lævia, lateralia patentia, nervo ultra medium evanido, marginibus apicem versus serrulatis; ramulina conformia, cellulis elongatis angustis.

Leskea angustata, *Tayl. in Trans. Bot. Soc. Edinb.* iii. 23?

Hab. Ins. Dominica, *M'Imray*; Martinique, ex *Herb. Schimper*; Guadelupe, *Perrottet.*

Rami 3–4 uncias alti, ramulis longioribus fere uncialibus ramosi. Folia e rami primarii medio lineam longa, in omnibus speciminibus fulva.

Omnino hujus gregis est *Leskea angustata* Tayl., e fragmentis ramorum adeo incompletis descripta ut nunquam dijudicare potest an species distincta sit, an mera forma juvenilis *P. insularis*, nec cum *Leskea novæ hollandiæ* comparanda.

17. P. THIELEANUM (*C. Müll. Syn.* ii. 227, Hypnum). Dioicum; caulis primarius repens; divisiones erectæ altiusculæ tenerrimæ, ramis gracillimis subcompressis laxifoliis attenuatis flexuosis simplicibus v. brevissime ramulosis lutescentibus superne pinnatim divisæ, inferne foliis squamæformibus minutis obtectæ. Folia ramulina minuta, e basi angustissima sensim dilatato-ovata acuta, superne grosse serrata, cava, margine basi anguste revoluto, nervo dimidiato pallido canaliculato, dorso parce dentato, cellulis rotundis incrassatis pallidis, alaribus paucis minutissime quadratis obscuris ventricose impressis.—*C. Müll. l. c.*

Isothecium intermedium, *Thiele in Hb. Reg. Berol.*

Hab. Brasilia, *Sellow.*

Omnium congenerum tenerrimum.—*C. Müll. l. c.*

18. P. MINUTUM (*Mitt.*). Rami pinnatim ramosi. Folia compressa, lateralia patenti-divergentia, omnia conformia, concava, nervo latiusculo infra apicem evanido, margine apice crenulata, cellulis parvis rotundis limitibus grossiusculis, dorso folii brevissime prominentibus.

Hab. Ins. Cuba, *Wright,* inter n. 85.

Ramus ½ unciam altus, cum foliis ½ lineam latus. Folia læte viridia, obscura.

Species quamvis e fragmento descripta inter Americanas distinctissima.

19. P. PINIFORME (*Brid.* ii. 260). Caulis primarius longe repens, divisiones erectæ pusillæ tenellæ frondiformes, jam e basi fere ramis gracilibus complanatis subsimplicissimis simpliciter pinnatæ, lutescentes. Folia caulina implana, caviuscula, margine erecto, nervo pallido ante apicem evanido, flaccida, cellulis incrassate rotundatis scariosis pallidis, alaribus vix ullis minute incrassate quadratis; ramulina multo minora, ovata, acuta, cava, basi parum impressa, minute erose denticulata.

Hypnum piniforme, *C. Müll. Syn.* ii. 228.

Hab. Ins. Guadelupe, *Herb. DeCandolle et Bridel.*

20. P. GYMNOPODUM (*Tayl. in Hook. Lond. Journ.* v. 62, Leskea). Rami superne in frondem planiusculam bipinnatim ramosi. Folia distichacea, compressa, inæqualia, apice pauciundulata, nervo ad ¾ folii longitudinis producto, marginibus apicem versus serrulatis, cellulis inferioribus elongatis, superioribus ellipticis suboblongisque; ramulina ovalia, apiculata, marginibus fere ubique serrulatis.

Hab. Andes Quitenses, *Jameson.*

Rami stipite 2-unciale in frondem latitudine 2-uncialem divisi. Folia viridia, flavescentia, subnitida.

21. P. SPARSIFLORUM (*Hampe in Linnæa,* xxxii. 157, Hypnum sparsifolium). Distiche ramosum, flabellato-frondosum, elatum, læte viride, nitens; surculus procumbens, fusco-tomentosus, caule adscendente erecto

basi angulato fusco nudo vel microphyllino, superne diviso-ramoso, fronde disticha bipinnata ramosa late ovato-lanceolata, ramulis complanatis obtusis vel interdum attenuato-elongatis intermixtis. Folia ad basin ramorum ovata, acuminata, cætera ramorum disticha, laxe imbricata, parce undulata, humida planiuscula, lateralia parum recurva patentia, e basi uno latere parce inflexo angustiore late oblongo-ligulata, acuta, apice eroso-dentata, nervo pallido supra medium evanido, cellulis alaribus aureis, cæteris pentagono-ellipticis, intermediis angustioribus, supremis abbreviatis ovato-ellipticis; perichætialia late ovata, longe acuminata, convoluta, apice patentia. Seta (in singula fronde) solitaria, rubra, brevis vix uncialis, adscendens, glaberrima, apice parum curvata et incrassata. Theca oblongo-cylindrica, dorso convexo obliqua, horizontalis, operculo conico subulato longissimo, thecam ½ superante rubro; calyptra cucullata glaberrima brevi crocea, peristomii dentibus externis late lanceolatis subulatis rubris apice trabeculis prominentibus denticulatis pallidis, interni cruribus carinatis luteis ciliis interjectis.—*Hampe, l. c.*

Hab. Andes Bogotenses, in sylvis ad arborum radices (3000 metr.), *Lindig.*

22. P. HUMILE (*Mitt.*). Rami superne in frondem parvam bipinnatam ramulosi, apicibus sæpe filiformi-attenuatis. Folia ramea disticha, planiuscula, nervo ultra medium evanido, marginibus versus apicem serrulatis, cellulis inferioribus ovalibus, superioribus quadrato-rotundis; ramulina breviora, minus compressa.

Hab. Andes Quitenses, ad pedem montis Tunguragua (7000 ped.), *Spruce*, n. 1360.

Rami unciales, superne in frondem ramulis irregularibus longioribus vix excedentibus 3–4 lineas divisi. Folia glauco-viridia.

23. P. STOLONACEUM (*Hampe in Linnæa*, xxxii. 154). Dendroideum; disticha pinnatim ramosum; caulis e basi subnuda adscendenti-erectus superne ramosus, interdum latere stolones emittens inordinate dendroideus, ramis brevibus et longioribus gracilibus compressis, apice attenuatis. Folia concava, apice parce denticulata, nervo basi crasso supra medium attenuato evanido, cellulis anguste ellipticis dense aggregatis, lutescenti-diaphana; perichætialia imbricata, apice recurva, inferiora minora, intima majora, longiora, magis acuminata, subintegerrima, enervia. Seta gracilis, erecta, uncialis, rubens. Theca ovata, erecta, operculo conico subulato, thecam subæquante; peristomii dentibus externis reflexis, interni cruribus carinatis perforatis longissimis, ciliis solitariis brevibus interruptis.—*Hampe, l. c.*

Hab. Andes Bogotenses, Tequendama, Canoas in sylvis ad arborum radices (2500 metr.), *Lindig.*

P. longirostro Brid. proximum, differt caule stolonifero irregulariter ramoso foliis undique imbricatis erectis nec distiche patentibus, perichætialibus latioribus ovatis intimis acuminatis nec subulato-lanceolatis, etc.—*Hampe, l. c.*

24. P. CÆSIUM (*Mitt.*). Rami proliferi, subpinnatim ramosi. Folia distiche imbricata, subflexa, longitudinaliter substriata, apice subundulata, marginibus apice minute serrulatis, cæteroquin integerrima, nervo pellucido sub apice evanido, cellulis basi elongatis apice pluribus rotundatis; ramulina latiora, subovata, apice apiculo acutiore, serraturis evidentioribus.

Hab. Andes Quitenses, in sylva Canelos (3000 ped.), *Spruce.*

Rami e basi infima foliis increscentibus distichis 2-unciales altioresque, cum foliis lineam lati. Folia pallide glauco-viridia, subnitentia, seniora pallide fusca.

25. P. MINUS (*Hampe in Ann. Sc. Nat!* ser. 5. iv. 376). *P. variabilis* varietati caule supradecomposito flabellato simile, sed minus, magis decompositum, intensius coloratum, ramis gracilioribus magis conformibus. Folia evidenter plicata; caulina minora, fere sursum denticulata, apice argutius serrato-dentata, ramorum angustiora, cellulis anguste angulato-ellipticis, abbreviatis, papilloso-punctatis, dense conflatis; perichætialia breviora, pallida, ovato-lanceolata, subulata, patentia. Seta brevis, perichætium duplo superans, erecta. Theca ovata, parum obliqua, adscendens; operculo crasso conico-subulato; peristomium duplex croceum, externum dentibus lanceolato-subulatis incurvis, trabeculis prominentibus, margine sinuato-serratis, internum cruribus longissimis, pyramidato-conniventibus perforatis.—*Hampe, l. c.*

Hab. Andes Bogotenses, Bogota, Tequendama, Canoas (2000 metr.), *Lindig.*

Sect. 2. *Thamnium*, Schimp. Bryol. Europ.

26. P. EXPANSUM (*Tayl. in Hook. Lond. Journ.* v. 64, Hypnum). Rami longissime producti, pinnati. Folia disticha, applanata, apice denticulata, nervo sub apice evanido, cellulis basi ellipticis apice oblongis. Theca in pedunculo apice arcuato horizontalis, ovalis, peristomio perfecto.

Hab. Andes Quitenses, Quito, *Jameson*; ad rivulum Chasuan montis Chimborazo (3000 ped.), *Spruce*, n. 1368.

Statura habituque *Phyllogoniis* simile. Rami graciles, ½-pedales. Folia viridia, fuscescentia, vix nitentia.

27. P. RIGIDUM (*Mitt.*). Folia ramea concava, ramulina ovata ovato-lanceolatave, omnia marginibus apice parce serrulatis, nervo crasso latiusculo subito ante apicem evanido, cellulis inferioribus ellipticis oblongis, superioribus rotundatis parvis.

Hab. Ins. Juan Fernandez, ad saxa in locis udis secus rivulos, in sylvis montium, *Bertero*, n. 1870, *Herb. Hooker.*

Species *P. alopecuri* et *P. dendroidi* affinis.

28. P. VALDIVIÆ (*C. Müll. in Bot. Zeit.* 1855, 783, Hypnum). Folia ramorum primariorum superiora disticha apice denticulata, planiuscula,

longitudinaliter subplicata, marginibus inferioribus subrecurvis, nervo ultra medium producto; ramulina ovalia, acutiora, nervo dorso dentato, cellulis ellipticis; perichætialia e basi erecta convoluta, subulata, recurva. "Theca in pedunculo brevi inclinata, ovalis."

Hab. Chili, in Valdivia ad Arique, *Lechler*, n. 631.

Rami stipite foliis appressis unciali in frondem arbusculosam fasciculatim bipinnatam ramosi. Folia viridia, fuscescentia.

29. P. EXPLANATUM (*Mitt.*). Dioicum, rami stipite brevi foliis parvis in frondem inordinate pinnatam ramosi, ramo primario sæpe longe producto attenuato. Folia compressa, nervo sub apice evanido, marginibus superne denticulatis, inferne recurvis, ramulina minora, conformia; perichætialia e basi ovali convoluta, subulata. Theca in pedunculo brevi, ovalis, inclinata, peristomio perfecto.

Hab. Andes Quitenses, Quito, *Jameson* (absque fructu). Andes Peruvianæ, Tarapoto, specimen unicum fructiferum, *Spruce.*

P. expanso simile, nisi foliis latioribus.

30. P. FILIFERUM (*Mitt.*). Stipes brevis, foliis sparsis patulis ovatolanceolatis acutis marginibus reflexis, superne in frondem ramulis sæpe filiformi-productis pinnatim divisus. Folia longitudinaliter subundulata, lateralia marginibus inferioribus inflexis complicata, nervo ultra medium producto, marginibus recurvis apicem versus denticulatis, cellulis omnibus elongatis angustis, ramulina conformia.

Hab. Venezuela, *Funck et Schlim*; Andes Quitenses, ad flumen Bombonasa (1500 ped.), *Spruce*, n. 1365. Andes Peruvianæ, ad rivulum Shillicaio (2000 ped.), *Spruce*, n. 1366; ad Tarapoto (1600 ped.), *Spruce*, n. 1367.

Quam *P. valdiviæ* paululo robustius, habituque laxiore.

31. P. FASCICULATUM (*Sw. Prodr. Fl. Ind. Occ.* 140; *Hedw. Sp. Musc.* t. 62, Hypnum). Folia e rami medio compressa, media ovatoligulata, obtusa, apice dentata, planiuscula, longitudinaliter subplicata, marginibus subincurvis, intermedia lateraliaque paululum asymmetrica, uno latere inflexa, nervis sub apice evanidis, cellulis elongatis, superioribus ellipticis apice rotundatis; perichætialia oblonga, erecta, convoluta, acuminibus angustis patulis. Theca in pedunculo elongato arcuato subpendula, ovalis, collo sensim attenuato, operculo magno subulato.

Hab. Ins. Jamaica, *Swartz*; Venezuela, Caripe et Tovar, *Moritz*; Caracas, *Birschel, Funck et Schlim*, n. 355 et 375. Andes Bogotenses (2200 metr.), *Lindig*; in sylvis supra Pacho (6000 ped.), ad saxa rivulorum uda, *Weir*, n. 259. Andes Peruvianæ, in monte Campana (3000 ped.), *Spruce*, n. 1364.

32. P. PANDURÆFOLIUM (*C. Müll. in Bot. Zeit.* 1855, 788, Hypnum). Folia ramea caviuscula, nervo ultra medium producto, marginibus e medio ad apicem denticulatis, cellulis basi elongatis e medio ad apicem oblongis; perichætialia erecta, e basi late vaginante superne serrulata, subito in

acumen loriforme apice denticulatum producta. Theca in pedunculo elongato arcuato, ovalis, horizontalis nutansve, operculo subulato obliquo.

Hab. Chili ad Sukarte, *Lechler*, n. 596.

Rami stipite unciali, foliis apicibus recurvis vestito, inde in frondem fasciculatam ramulis simplicibus vel pinnatim ramosis divisi. Folia viridia.

33. P. FLAGELLIFERUM (*Hampe in Ann. Sc. Nat.* ser. 5. v. 309). Gracile et debile, fronde decomposita procumbente e centro denuo prolifera, adscendente bipinnata, ramis apice flagelliferis. Folia disticha, inferiora ovata, acuta, subintegerrima, lateralia uno latere inflexa, late ovata, ligulata, breve acuminata, apice parce et remote denticulata, nervo flavescente medio dissoluto, cellulis anguste ellipticis dense areolata, lutescentia; perichætialia patula, ovato-acuminata, subreflexa. Seta brevis, hypogyna, vix semiuncialis, apice scabriuscula, adscendens. Theca angusta, oblongo-cylindrica (junior), dorso convexo adscendenti-horizontalis; operculo conico-subulato, thecam fere æquante, parum curvato.—*Hampe, l. c.*

Hab. Andes Bogotenses, in sylvis Manzanos (specimen unicum immaturum), *Lindig*.

Ex habitu *Porotrichi variabilis*, sed ob thecam curvatam ad *Hypnum* pertinet.—*Hampe, l. c.*

Tribus XVI. SEMATOPHYLLEÆ.

87. Meiothecium, Mitt. in Journ. Linn. Soc. 1868.

Musci graciles. Folia undique æqualia, cellulis alaribus sæpe parvis plus minus conspicuis. Thecæ in pedunculo brevi, cylindraceæ, inclinatæ. Flores monoici, rarius dioici. *Habitatio* ad arborum corticem.

Folia oblongo-lanceolata	1. *M. Boryanum.*
Folia lanceolata, superne excavata	2. *M. sulcatum.*
Folia lanceolata, parum concava	3. *M. andinum.*
Folia ovato-lanceolata, acuminata	4. *M. lageniferum.*
Folia anguste lanceolata, sensim acuminata	5. *M. tenerum.*
Folia ovalia obtusiuscule acuta	6. *M. revolubile.*
Folia oblongo-lanceolata, perfecte acuminata, nervis binis obsoletis.	7. *M. aptychoides.*
Folia late ovata, acuta, compressa	8. *M. negrense.*

1. M. BORYANUM (*Mont.*, Pterogonium; *C. Müll. Syn.* ii. 75, Neckera). Repens, laxe cæspitosum. Folia dense inserta, patentia, imbricata, acuta, concava, plerumque plica medio exarata, marginibus late recurvis revolutisve integerrimis, cellulis in apice ovalibus, inferioribus angustis elongatis, basi ad margines pluribus parvis ellipticis ovalibusque oblique dispositis, alaribus 4 distinctis flavis oblongis; perichætialia erecta, ovata, acu-

minata, serrulata. Theca in pedunculo brevi, ovali-cylindracea, peristomii dentibus angustis breviusculis teneris inter se remotis.

Hab. Ins. San Domingo, *Herb. Bory*; Sti. Vincentis, ad corticem *Myristicæ moschatæ*; Trinidad, *Black*. Surinam, *Weigelt, Kegel*; Cayenne, *Herb. Schwægrichen*; Guiana, *Herb. Hook.* Fl. Negro, S. Carlos, in radicibus *Artocarpi incisæ*, *Spruce*, n. 805.

Caulis repens, unciam longus, rami sub 2-lineares. Folia luteo-viridia, apicibus ob marginis flexuram sæpe quasi acuminata. Pedunculus 3 lineas altus.

2. M. SULCATUM (*Mitt.*). Procumbens, ramis incurvatis crassiusculis. Folia patentia, imbricata, inferne concava, margine plus minus recurva revolutave, cellulis angustis elongatis alaribus luteis; perichætialia conformia, ut plurimum dimidio minora, erecta. Theca in pedunculo brevi, minuta, oblonga, basi subcallosa, peristomii dentibus pallidis basi approximatis.

Hab. Brasilia Tropica, *Burchell*, n. 3423.

Rami unciales, cum foliis crassitudine lineam metientes. Folia viridistraminea, sicca medio plicata, juniora nitida, in ramorum apicibus subcuspidatim congesta. Pedunculus 1½-linearis.

Species ramis robustis thecis pedunculisque exiguis insignis.

3. M. ANDINUM (*Mitt.*). Folia dense inserta, patentia, imbricata, plica parva nervum tenuissimum simulante exarata, marginibus reflexis integerrimis, cellulis apice elliptico-oblongis, inferioribus angustissimis elongatis, ad angulos paucis elliptico-oblongis, alaribus 4 parvis distinctis flavis; perichætialia lanceolata, sensim acuta, serrulata. Theca in pedunculo brevi, cylindracea, subcurvata.

Hab. Andes Quitenses, in descensu occidentali, *Jameson*.

A *M. Boryano* foliis longioribus angustioribus diversum videtur.

4. M. LAGENIFERUM (*Mitt.*). Ramorum apices sursum curvati. Folia sursum patentia, concava, margine vel erecta vel ad acumen usque revoluta, cellulis ellipticis, alaribus parvis, basilaribus mediis flavis; perichætialia erecta, parum angustiora longioraque. Theca in pedunculo breviusculo, elliptico-cylindracea, basi callosa, post operculum conico-acuminatum delapsum sub orificio contracta, lageniformis, peristomio hiante, dentibus latis pallidis basi approximatis.

Hab. Brasilia Tropica, *Burchell*, n. 2237.

M. negrensi simillimum, sed foliis magis acuminatis sursum curvatis, theca magis inclinata rufo-fusca.

5. M. TENERUM (*Mitt.*). Tenellum. Folia caulina secunda, ramea undique patentia, parum concava; marginibus inferne recurvis revolutisve integerrimis, cellulis e basi ad apicem ellipticis, ad angulos paucis ovalibus obliquis, alaribus minutis flavis; perichætialia erecta, longiora, lanceolata, subulata, subintegerrima. Theca in pedunculo brevi, ovali-cylindracea, peristomii dentibus brevibus teneris humidis recurvis.

Hab. Brasilia, Minas Geraës, in sylvis, *Gardner*, n. 75.

Caulis subuncialis, gracillimus, ramis 2–3-linearibus. Pedunculus 2-linearis.

Habitus *M. Boryani*; teneritate autem *Potamio pulchello* similius.

6. M. REVOLUBILE (*Mitt.*). Rami procumbentes. Folia densa, patentia, subcompressa, superiora late ovalia, obtusiuscule acuta; lateralia inferioraque ovali-acuminata, excavata, uniplicata, marginibus late recurvis revolutisque integerrimis, cellulis apice ovalibus, inferioribus elongatis angustis ad angulos tumide recurvis pluribus ellipticis obliquis; perichætialia oblonga, acuminata, concava, superne serrulata. Theca in pedunculo brevi, cylindracea, evacua sub ore constricta, peristomii dentibus angustis inter se remotis teneris humidis incurvis.

Hab. Fl. Orinoco, ad cataractas Maypures, *Spruce*, n. 804.

Rami subpinnatim ramosi, laxe cæspitosi. Folia pallide luteo-viridia. Pedunculus 2-linearis.

Habitu *M. Boryano* simile, sed folia latiora magis tumida. Dentes peristomii longiusculi sed angusti et inter se remoti.

7. M. APTYCHOIDES (*Schlieph. in Bot. Zeit.* 1857, 382). Caulis decumbens, ramis turgescentibus incurvis acutis densifoliis pallide viridibus. Folia appressa, parum secunda, concava, interdum plicata, integerrima, margine revoluta, cellulis angustis pallidis inanibus basi flavidis, alaribus magnis vesiculæformibus hyalinis vel parum flavidis; perichætialia angustiora, longiora, integerrima. Theca in pedunculo perbrevi rufo lævi tenuissimo erecta, minutissima, deoperculata oblonga, urceolata, supra matura anguste cylindrica, declinata, fusca, operculo longe oblique subulato; peristomii dentes externi longiusculi erecti albi, interni obsoleti; calyptra anguste cylindrica lævis.—*Schlieph. l. c.*

Hab. Ins. Sanctæ Catherinæ; Brasiliæ, ad truncos arborum sylvarum primævarum ad Rio Itajahi, *Pabst.*

M. madagascariensi affine, sed foliorum forma et areolatione distinctum; ab omnibus (*Pterogoniis*) cæteris caule turgescente satis diversum.—*Schlieph. l. c.*

8. M. NEGRENSE (*Spruce*). Rami procumbentes, depressi. Folia patentia, siccitate laxa, patula, margine recurva, integerrima, cellulis angustis obscuriusculis areolata, alaribus inconspicuis; perichætialia erecta, lanceolata, integerrima. Theca pallida, leptoderma, erecta vel subinclinata, operculo subulato acuminato recto, peristomii dentibus teneris pallidis.

Hab. Fl. Negro, S. Carlos in *Artocarpi incisæ* radicibus, *Spruce*, n. 969; Uanauaca, ad arborum radices, *Spruce*, n. 970. Andes Peruvianæ, Tarapoto, *Spruce.* Andes Quitenses, *Jameson.*

Rami 3–9 lineas longi, latitudine cum foliis lineam metientes. Folia viridia, subnitida, sicca contracta. Pedunculus 6-linearis.

Habitu ob folia siccitate patula laxius disposita a reliquis speciebus diversum.

88. POTAMIUM.

Folia undique æqualia vel compressa diversiformia, cellulis alaribus parum conspicuis. Theca erecta inclinatave, pedunculo breviusculo. *Habitatio* ad arbores et ligna emortua locis ripariis.

Caules terrestres.
  Theca erecta.
    Folia ramea anguste oblongo-lanceolata .... 1. *P. pulchellum.*
    Folia omnia lanceolata, obtusa .... 2. *P. casiquiariense.*
    Folia angustissime lanceolato-acuminata .... 3. *P. commutatum.*
  Theca inclinata.
    Folia lateralia intermediaque late ovalia, obtusa.
      4. *P. vulpinum.*
    Folia lateralia ovato-lanceolata .... 5. *P. deceptivum.*
Caules fluitantes.
    Folia longe lanceolata .... 6. *P. lonchophyllum.*
    Folia ovalia oblongave .... 7. *P. pacimoniense.*

1. P. PULCHELLUM (*Hook. Musc. Exot.* t. 4, Pterogonium). Rami prostrati, radicantes, ramulis brevibus cæspitem laxum formantibus. Folia ramea distiche remote inserta, ramulina subcompressa, densius inserta, lanceolata, acuta subacuminatave, concava, subintegerrima, nervis subobsoletis, cellulis angustis teneris pellucidis, ad angulos pluribus quadratis subobscuris; perichætialia erecto-patentia, longiora, apice angustiora, subintegerrima. Theca in pedunculo brevi, cylindracea, operculo acuminato, peristomii dentibus teneris brevibus.

Hab. Ins. Trinidad, *Black, Crüger.* Andes Bogotenses, in monte Quindiu (1070 hexap.), *Humboldt et Bonpland,* n. 37. Fl. Amazon, Pará, *Spruce,* n. 840; ibidem in loco Tauaú in terra ad arborum radices, *Spruce,* n. 841, et Caripi, *Spruce,* n. 842.

2. P. CASIQUIARIENSE (*Spruce*). Monoicum, prostratum, laxæ cæspitosum. Folia compressa, concava, marginibus subintegerrimis, cellulis elongatis teneris ad angulos paucis quadratis, alaribus distinctis nullis; perichætialia erectiuscula, ovata, acuminata, obtusa, subintegerrima. Theca in pedunculo brevi, ovalis, operculo acuminato brevirostro, peristomii simplicis dentibus brevibus.

Hab. Fl. Amazon; Nauta, in truncis inundatis, *Spruce,* n. 818; Santarem, *Spruce,* n. 820. Fl. Casiquiari, *Spruce,* n. 819.

P. pulchello paululo robustius, habitu et foliorum structura conveniens, forma autem diversa.

3. P. COMMUTATUM (*C. Müll. in Bot. Zeit.* 1857, 385, Neckera). Monoicum, tenuissimum, tenerrimum, intertextum, exilissimum, parce divisum, pallide viride, homalophyllum. Folia caulina minuta, laxissime patentia sparsa, interdum parum flexuosa et acumine tenui reflexa, caviuscula, mar-

gine ubique erecto, basi parum introrsum constricto integerrimo, cellulis ellipticis æqualibus, alaribus paucissimis quadratis pellucidis vel obscuris, haud incrassatis, minutis, infimis flavidis, nervis binis subobsoletis; perichætialia majora, longius acuminata. Theca in pedunculo brevissimo apice incrassato, minutissime ovalis, supramatura inclinata, pallide aurantiaca, operculo conico oblique rostrato, dentibus simplicibus humore valde reflexis, lanceolato-subulatis dense approximatis et dense trabeculatis albidis membranaceis lævissimis linea media exaratis.—*C. Müll. l. c.*

Neckera pulchella, *C. Müll. Syn.* ii. 78.

Hab. Brasilia, Rio Janeiro, *Beske.*

Species ex observationibus cl. auctoris a *P. pulchello* peristomii dentibus lævioribus diversa.

4. P. VULPINUM (*Mont. in Ann. Sc. Nat.* ser. 2. ii. 204, t. 4, Neckera). Monoicum. Folia compressa, media latissime obovata, obtusa, cochleariformi-concava, marginibus recurvis, lateralia subconduplicata, media inferiora dissita, ovata, acuta, plana, omnia integerrima, enervia, cellulis superioribus parvis ellipticis utriculo obscuris, ad angulos pluribus parvis subquadratis, alaribus minutis 3–4 pellucidis; perichætialia erecta, ovata, acuta, integerrima. Theca in pedunculo brevi pallido, ovalis, inæqualis, leptoderma, operculo subulato, peristomii dentibus pallidis teneris intus brevissime trabeculatis superne abruptis?; interni processibus subulatis filiformibus superne teretiusculis lævibus.

Hab. Fl. Orinoco, ad rupes cataractæ Maypures, *Spruce*, n. 816.

5. P. DECEPTIVUM (*Mitt.*). Monoicum; rami parce ramosi compressi, ramulis e parte inferiore productis, foliis imbricatis. Folia ramea media late ovata, obtusiuscula, intermedia acutiora, lateralia patentia concava, et inferiora ovato-lanceolata, subintegerrima, cellulis elongatis sub apice ellipticis, alaribus minutis inconspicuis 3–4 fuscis; perichætialia erecta, lanceolata, acuta, subintegerrima. Theca in pedunculo brevi rubro, cylindracea, subhorizontalis, operculo subulato, peristomii dentibus fuscis teneris, interni processibus angustis filiformibus sessilibus.

Hab. Fl. Casiquiari, *Spruce*, n. 821, 825; fl. Negro; fl. Uaupes, in rupibus inundatis; ad Panuré, *Spruce*, n. 822; fl. Uaupes, secus ostia frequens in truncis inundatis, *Spruce*, n. 823; San Carlos, in truncis inundatis, *Spruce*, n. 824.

Rami unciales, parce divisi. Folia nisi in apicibus ramulorum fusca. Pedunculus 1½-linearis.

P. pacimoniensi habitu structuraque affine. Theca inclinata *Meiotheciis* simile.

6. P. LONCHOPHYLLUM (*Mont. Syll.* 10, Hypnum). Caulis fluitans, debilis, intricatus, vage ramosus, ramis iterum ramulosis, ramulis brevibus. Folia distantia, patentia, flaccida, viridia, enervia, apice dentata, fusiformi- vel vermiformi-areolata; perichætialia brevia conformia. Pedunculus lævis. Capsula minuta, ovoideo-urceolata, tandem pendula, sub ore con-

stricta; peristomium internum ciliis carinatis solidis (i. e. haud lacunosis) ciliolis solitariis interjectis, operculo e basi convexa rostrato, rostro incurvo capsula longiore.—*C. Müll. l. c.*

Hab. Cayenna, in aquis fluitans, *Leprieur.*

Caulis debilis, ruber, 12–15 centim. et ultra longus.

Ab omnibus congeneribus aquaticis abunde differt foliis enerviis, exiguitate thecarum, et peristomii structura.—*C. Müll. l. c.*

7. P. PACIMONIENSE (*Spruce*). Monoicum; caules elongati fluitantes. Folia media ovalia, subacuminata, obtusa, intermedia ovali-oblonga, obtusa, lateralia latiora, margine inferiore inflexa, inferiora media latissime ovalia, obtusa, omnia integerrima, concava, cellulis angustis, superioribus subellipticis ad angulos paucis subquadratis, alaribus fuscis; perichætialia parva, erecta, oblongo-lanceolata, obtusiuscula, subintegerrima. Theca in pedunculo brevi pallido, turbinata, operculo subulato, peristomii dentibus latiusculis intus trabeculatis, interni processibus subulatis æquilongis, in membrana ad $\frac{1}{3}$ dentium longitudinis exserta impositis.

Hab. Fl. Negro, in truncis inundatis ad S. Carlos, *Spruce,* n. 828; ad fl. Pacimoni necnon ad ejus tributarium Uaiauaca, in ramis inundatis vulgare, *Spruce,* n. 829; S. Gabriel, in truncis inundatis, *Spruce,* n. 830.

Rami vel caules immersi, 6–8 uncias longi, laxe subpinnatim ramosi. Folia pallide viridia. Rami ripariæ abbreviati 1–1$\frac{1}{2}$-unciales, ramulis abbreviatis, foliis densioribus. Pedunculus sub-2-linearis.

89. SEMATOPHYLLUM, Mitt. in Journ. Linn. Soc. 1868.

Musci late cæspitosi. Thecæ longe tenuiterque pedunculatæ. *Habitatio* ad arbores, etiam in rupibus et ad terram.

Sect. 1. ACROPORIUM. *Rami ut plurimum pinnatim fasciculatimve ramosi. Folia pungenti-imbricata, angusta, cellulis alaribus valde conspicuis.*

Folia lævia.
Folia lanceolata, sensim angustata, acuta .... 1. *S. pungens.*
Folia oblongo-lanceolata, breviter acuminata.. 2. *S. stenocarpum.*
Folia elliptico-lanceolata, sensim in acumen angustum producta. 3. ***S. implanum.***
Folia anguste lanceolata, margine revoluta .. 4. *S. ulicinum.*
Folia papillosa .... 5. *S. guianense.*

Sect. 2. RHAPHIDORRHYNCHUM. ***Rami subsimplices, adscendentes. Folia brevia, cellulis alaribus conspicuis.***

Folia cellulis lævibus areolata.
Folia acumine haud angusto attenuata. Flores monoici.
Folia late ovalia, acumine brevi acuto, apice subserrulata. 6. *S. cæspitosum.*
Folia late ovalia, acuminata, integerrima .. 7. *S. loxense.*
Folia oblonga, excavata, acumine subulato.. 8. *S. cuspidiferum.*

Folia ovata, acuminata, apice subserrulata .. 9. *S. constrictum.*

Folia ovalia, acuminata, integerrima ......10. *S. galipense.*

Folia ovalia, apiculata vel breviter acuminata, integerrima. 11. *S. agnatum.*

Folia elongate inæqualiter latiuscule lanceolato-acuminata, planiuscula. 12. *S. flaccidifolium.*

Folia ovali-oblonga, obtusiuscula, concava, apice serrulata. 13. *S. secundifolium.*

Folia late ovato-acuminata, planiuscula ....14. *S. inconspicuum.*

Folia oblongo-ovalia lanceolatave, acuminata, integerrima. 15. *S. leptothecium.*

Folia obovato-oblonga, acuta ....16. *S. cucullatifolium.*

Folia anguste oblongo-lanceolata, subulato-acuminata. 17. *S. flavidum.*

Folia oblonga, longe acuminata, integerrima. 18. *S. fulvum.*

Folia elliptico-lanceolata, subulato-acuminata, integerrima. 19. *S. andinum.*

Folia anguste lanceolata, sensim angustata subulatave. 20. *S. sericifolium.*

Folia late lanceolata, sensim acuminata, nervis fere obsoletis. 21. *S. subnervatum.*

Folia oblonga, acuminata ....22. *S. affine.*

Folia late ovata ....23. *S. succedaneum.*

Folia late lanceolata, sensim longe subulata. 24. *S. Hedwigii.*

Folia elongato-lanceolata, acuta vel breve cuspidata. 25. *S. crinitifolium.*

Folia falcato-flexa, oblongo-lanceolata, cucullato-attenuata. 26. *S. subbrachycarpum.*

Folia lanceolata, sensim angustata acuminatave, apice subserrulata. 27. *S. admistum.*

Folia anguste oblongo-lanceolata, longe acuminata, integerrima. 28. *S. fragilirostrum.*

Folia anguste oblongo-acuminata, nervis obsoletissimis. 29. *S. chrysostegum.*

Folia ovalia, breviter acuminata, apice subserrulata integerrimave. 30. *S. Kegelianum.*

Folia latissime ovalia, breviter acuminata, integerrima. 31. *S. circinale.*

Folia sensim in acumen elongatum angustata sæpius falcata.

Folia ovato-lanceolata, sensim acuminata, superne serrulata, falcato-secunda ....32. *S. subscabrum.*

Folia oblongo-elliptica, sensim anguste acuminata, subintegerrima, falcato-secunda ....33. *S. Lindigii.*

Folia anguste elongate lanceolata, subulata, apice remote subserrulata, subsecunda ....34. *S. roridum.*

Folia oblongo-lanceolata, longe subulata, apice subintegerrima, falcato-secunda ....35. *S. amœnum.*

Folia oblongo-lanceolata, longius acuminata, subsecunda.
36. *S. macrorhynchum.*

Folia ovato-oblonga, subito in acumen angustum producta, superne serrulata ....37. *S. acistrostegium.*

Folia anguste lanceolato-subulata, superne serrulata falcato-secunda.
38. *S. decumbens.*

Folia oblongo-lanceolata, longe falcate latiuscule acuminata, integerrima, subfalcato-secunda ....39. *S. scorpiurus.*

Folia lineari-lanceolata, acuminata ....40. *S. liliputianum.*

Folia ovali-elliptica, acumine longissimo angusto integerrimo, falcato-secunda ....41. *S. leptophyllum.*

Folia oblongo-lanceolata, longissime acuminata, integerrima, secunda.
42. *S. Olfersii.*

Folia oblonga, subulato-acuminata, integerrima, subsecunda.
43. *S. erythropodium.*

Folia anguste lanceolata, longe anguste subulata, apice remote subserrulata, falcato-decurva ....44. *S. calidum.*

Folia anguste lanceolato-subulata, superne remote subserrulata, falcato-recurva ....45. *S. insulosum.*

Folia anguste lanceolato-subulata, apice remote serrulata decurva.
46. *S. xylophilum.*

Folia longiuscule oblonga, in acumen elongatum loriforme latiusculum flexuosum subulato-contracta ....47. *S. Schwaneckianum.*

Folia anguste ovato-acuminata, integerrima.
48. *S. longirostratum.*

Folia oblongo-lanceolata, sensim in acumen elongatum angustata, falcato-secunda ....49. *S. obliquerostratum.*

Folia cellularum apicibus prominulis papillosa.

Folia lanceolato-subulata, apice serrulata, falcato-secunda.
50. *S. prominulum.*

Folia lanceolata, longe anguste subulata, apice serrulata, falcato-secunda.
51. *S. noduliferum.*

Folia anguste lanceolata, sensim subulata, superne serrulata secunda.
52. *S. Schlimii.*

Folia elliptica, acuminata, integerrima, patentia.
53. *S. tequendamense.*

Sect. 3. TRICHOSTELEUM. *Rami parum divisi, procumbentes. Folia cellulis alaribus conspicuis, superioribus papillatis. Papillæ singulæ e media cellula oriundæ.*

Folia lanceolata, acuminata, superne serrulata ..54. *S. papillosum.*

Folia lanceolata, acuta, acuminatave, subintegerrima.
55. *S. ambiguum.*

Folia oblongo-lanceolata, acuminata, serrulata ..56. *S. rubrisetum.*

Folia lanceolata, longe subulata, flexuoso-attenuata, superne serrulata.
57. *S. sentosum.*
Folia anguste oblongo-lanceolata, subulato-acuminata, superne serrulata.
58. *S. vincentinum.*
Folia late vel anguste lanceolata, acuminata, superne serrulata.
59. *S. apiocarpum.*
Folia oblonga, breviter subulato-acuminata, superne serrulata.
60. *S. consanguineum.*
Folia oblongo-lanceolata, vix acuminata, superne serrulata.
61. *S. fluviale.*
Folia anguste lanceolata lineari-lanceolatave, subintegerrima.
62. *S. microcarpum.*
Folia angustissime lineari-lanceolata, acuminata, subintegerrima.
63. *S. pusillum.*
Folia oblongo-lanceolata, acuminata, minute serrulata.
64. *S. arrectum.*
Folia ovata oblonga acuminataque, superne serrulata.
65. *S. inundatum.*

Sect. 4. MICROCALPE. *Caules procumbentes subpinnati vel pinnati. Folia cellulis alaribus conspicuis.*

Folia ovata, subulato-acuminata ....66. *S. subsimplex.*
Folia lanceolata, vix acuminata, superne subcrenulata.
67. *S. decurvifolium.*
Folia elliptico-oblonga, acumine angusto curvato, integerrima.
68. *S. microcladum.*
Folia oblongo-lanceolata, acumine subulato, apice subserrulata.
69. *S. leptochæton.*
Folia ovalia, subulata, anguste acuminata, integerrima.
70. *S. lamprophyllum.*

Sect. 1. *Acroporium*, Mitt. in Journ. Linn. Soc. 1868.

Musci ramis sæpe elongatis. Folia nitida, longiuscula, siccitate parum mutata, cellulis angustis areolata. Fructus e partibus superioribus ramorum oriundus; thecæ parvæ, breves, operculis tenuissime subulatis, pedunculis gracillimis brevibus vel elongatis. Flores monoici synoicive. *Habitatio* ad ligna, rarius ad rupes.

1. S. PUNGENS (*Sw.*; *Hedw. Sp. Musc.* t. 60, Leskea). Rami ramosi, interdum subpinnati. Folia patentia, interdum subsecunda, basi cellulis alaribus subauriculato-contractis, apice marginibus involutis subserrulatis integerrimisve; perichætialia parva, erecta, convoluta, ovalia, apice obtusa, integerrima dentatave, apiculo brevi terminata. Theca in pedunculo rubro breviusculo superne scabro, pyriformis, erecta, ore magno, peristomii externi dentibus obscuris apice erosis, interni processibus carinatis, in membrana

ad $\frac{1}{3}$ dentium longitudinis exserta impositis; calyptra angusta, cellulis in spiram contortis, apice subscabra.

Leskea patens, *Hornsch. in Mart. Fl. Bras. Musc.* 72.

Hypnum thelipodium, *C. Müll. Syn.* ii. 275.

Hab. Ins. Jamaica, *Swartz, Maxwell, Wilds*; Cuba, *Wright*, n. 104. Surinam, *Kegel.* Andes Bogotenses, in Montaña fl. Sogamoza (5000 ped.), ad arbores, *Weir*, n. 168. Andes Quitenses, in monte Chimborazo (3000 ped.), *Spruce*, n. 835.

Rami 1–2 uncias alti, cum foliis fere 1½ lineam lati. Folia nitida, viridia, aurescentia. Pedunculus 2–6-linearis. Theca parva.

2. S. STENOCARPUM (*Hampe et C. Müll. in Bot. Zeit.* 1857, 384, Hypnum). Folia horride imbricata, erecto-patentia, cymbiformia, subintegerrima vel apice obsolete denticulata, enervia, basi flavida parum reflexa, margine fere ad apicem usque distincte plicato-revoluta, cellulis pallidissimis; perichætialia pauca, late vaginantia, obsolete denticulata, basi flavida. Theca in pedunculo lævi brevi purpureo tenui subflexuoso erecta, minute urceolato-ovalis, ore constricta, exannulata (?); peristomium perfecte *S. pungentis.—Hampe et C. Müll. l. c.*

Hab. Brasilia, ins. Sanctæ Catharinæ, in arborum ramis, *Blumenau.*

Ab *S. pungente* statura humiliore, colore pallidiore, inflorescentia monoica et figura foliorum certe distinctum.—*Hampe et C. Müll. l. c.*

3. S. IMPLANUM (*Mitt.*). Folia patentia, marginibus e medio ad apicem planis subrecurvis apice subserrulatis integerrimisve, cellulis elongatis angustis lævibus, alaribus elongatis luteis; perichætialia erecta, lanceolata, subulato-acuminata, caulinis parum breviora. Theca in pedunculo lævi, ovalis, inclinata.

Hab. Brasilia, prope Tejuca et Rio de Janeiro, in sylvis ad arborum radices, *Beyrich* ex *Hornsch.*

Habitus staturaque *A. pungentis*, forma foliorum autem diversa.

4. S. ULICINUM (*Mitt.*). Folia patentia, subcompressa, concava, marginibus integerrimis; perichætialia parva, erecta, lanceolata, apicibus subserrulatis. Theca in pedunculo rubro erecta, ovalis, operculo obliquo, peristomii dentibus latiusculis, processibus subulatis, carinatis, in membrana ad quartam dentium longitudinis exserta impositis.

Hab. Andes Quitenses, fl. Pastasa, secus ostia fl. Blanco (5000 ped.), ad fruticum ramulos, *Spruce*, n. 831. Brasilia, in Sierra inter Santos et San Paulo, ad arbores, *Weir*, n. 4 *a.*

Rami 6–9-lineares, cum foliis 1½ lineam lati. Folia nitida, stramineo-viridia.

H. subulato Hampe, Ic. Musc. t. 9, simile, sed folia angustiora, marginibus revolutis.

5. S. GUIANENSE (*Mitt.*). Folia patentia, lanceolata, sensim acuta, apice ipso explanato obtusiusculo, extus sub apice papillata, inferne lævia, marginibus superne involutis subintegerrimis; perichætialia parva,

erecta, ovalia, convoluta, apice crenulata, apiculo angusto. Theca in pedunculo breviusculo superne scabro, ovalis, erecta, deinde pendula, peristomii externi dentibus pallidis, linea media exaratis, interni processibus ciliisque singulis nullisve in membrana ad quartam dentium longitudinis exserta impositis; calyptra cellulis spiraliter dispositis apice scabra.

Hab. Fl. Amazon, Caripi prope Pará, *Spruce*, n. 832; Guiana, *Parker*.

S. pungente paululo minus, cæteroquin nudo oculo ei simillimum.

Sect. 2. *Rhaphidorrhynchum*, Schimp. Bryol. Europ.

Musci ramis in cæspites laxos congestis. Folia undique imbricata subcompressa vel interdum secunda falcataque. Thecæ operculo subulato longe tenuirostratæ. Floribus monoici rarissime dioici.

6. S. CÆSPITOSUM (*Sw. Prodr. Fl. Ind. Occ.* iii. 1807, Hypnum). Folia concava, marginibus inferioribus flexura latiuscula revolutis, superne recurvis, nervis brevibus fere obsoletis, cellulis superioribus abbreviatis ellipticis, inferioribus angustis elongatis, ad angulos pluribus suboblongis pellucidis; perichætialia longiora, erecta, lanceolata, apicibus serrulatis. Theca in pedunculo brevi inclinata, ovalis, subæqualis, peristomio parvo.

Hab. Ins. Hispaniola, ramulis emortuis, *Swartz in Herb. Hooker*; Cuba, *Wright*, n. 106. Andes Quitenses, in sylva Canelos ad rivulum Topo (3000 ped.), *Spruce*.

Rami ½–1 unciam alti. Folia in caulis latere superiore quam in latere inferiore latiora, lateralia etiam his dimidio latiora.

A *S. loxensi* et *S. galipensi*, ramis crassioribus foliis latioribus et pedunculo breviore recedit.

7. S. LOXENSE (*Hook. in Kunth. Syn. Pl. Æquin.* i. 62, Hypnum). Folia patentia, concava, marginibus flexura latiuscula recurvis, nervis brevibus fere obsoletis, cellulis angustis breviusculis, supraalaribus paucis majoribus subquadratis pellucidis; perichætialia anguste lanceolata, apicibus subserrulatis. Theca in pedunculo gracili inclinata, ovalis, ore obliquo, peristomio parvo, dentibus extus scabris intus trabeculatis.

Hab. Andes Quitenses ad fl. Pastasa loco Antombos (5000 ped.), *Spruce*, n. 990; secus Rio Verde (4000 ped.), *Spruce*, n. 991; ad fl. Bombonasa (1500 ped.), *Spruce*, n. 992, 993; in sylva Canelos ad rivulum Topo (3000 ped.), *Spruce*, n. 996; et forma turgidior, *Spruce*, n. 997; fl. Pastasa superius (4000 ped.), *Spruce*, n. 998. Andes Peruvianæ, in sylvis Cinchonis regionis temperatæ juxta Loxa et Genzananan (1080 hexap.), *Humboldt*, in ramis fl. Huallaga inundatis (1300 ped.), *Spruce*, n. 994; Tarapoto (1500 ped.), *Spruce*, n. 995; Brasilia, Sierra dos Orgaos, *Gardener*, n. 97, 98, 102; in Serra inter Antonina et Corritiba ad arbores, *Weir*, n. 47.

S. cæspitoso paululum gracilius, foliis indistincte nervatis.

8. S. CUSPIDIFERUM (*Mitt.*). Procumbens, ramis adscendentibus. Folia subcompressa, turgide laxe imbricata, acumine planiore subrecurvo, subenervia, marginibus ubique erectis integerrimis, cellulis angustis, alaribus 3–4 distinctis et supra eas paucis subquadratis; perichætialia erecta, lanceolata, subulata, marginibus recurvis integerrimis enerviis. Theca in pedunculo elongato, parva, ovalis, inæqualis, horizontalis, collo brevissimo, peristomii interni ciliis brevibus rudimentariis.

Hab. Andes Quitenses, Pallatanga (6000 ped.), *Spruce*, n. 999; Chimborazo, in sylvis Cinchonæ (4000 ped.), *Spruce*, n. 1000.

S. galipensi simile sed rami crassiores. Pedunculus unciam longus, tenuis.

9. S. CONSTRICTUM (*Mitt.*). Folia compressa, lateralia patenti-divergentia, concava, enervia, marginibus subrecurvis, cellulis angustissimis elongatis, alaribus pallidis; perichætialia longiora, brevinervata, subintegerrima. Theca in pedunculo breviusculo inclinata horizontalis nutansve, ovalis, inæqualis, sicca evacua, sub ore valde constricta, operculo obliquo, peristomii interni ciliis singulis inter processus in membrana ad tertiam longitudinis dentium exserta impositis.

Hab. Fl. Orinoco, ad cataractam Maypures, *Spruce*, n. 1014.

S. Kegeliano gracilius, foliorum cellulis angustis elongatis.

10. S. GALIPENSE (*C. Müll. in Bot. Zeit.* 1848, 780, Hypnum). Caulis repens, radicans, ramis assurgentibus plus minus elongatis in cæspitem congestis, interdum ramis subpinnatis liberis procumbentibus. Folia concava, margine recurva, implana, cellulis alaribus basilaribusque pallide flavis, superioribus angustis in apice ellipticis; perichætialia erecta, longiora, anguste lanceolata, obsoletinervia, margine recurva, subplicata. Theca in pedunculo sæpe elongato, parva, brevis, ovalis, inæqualis, collo distincto, horizontalis, peristomii interni processibus et ciliis brevioribus in unum coalitis interpositis, in membrana usque ad $\frac{1}{3}$ dentium longitudinis exserta impositis.

H. tovariense, *C. Müll. l. c.*

H. obliquifolium, *C. Müll. l. c.* 1845, 110.

H. dissolutum, *Sulliv. in Proceed. Amer. Acad.* 1861.

Hab. Ins. Jamaica, *Wilds*, *Wilson*; Guadelupe, *Perrottet*; Cuba, *Wright*, n. 122, 123; Tobago, *Seemann*; America centralis, Corientes, *Seemann*; Venezuela, prov. Caracas (3500–5000 ped.), *Funck et Schlim*, n. 345, 470, *Wagner*. Andes Bogotenses, Socorro (1300 metr.), *Lindig*; in sylvis supra Pacho (6500 ped.), ad terram, *Weir*, n. 375; Boqueron prope Bogota in declivibus humidis (8600 ped.), *Weir*, n. 341. Fl. Negro, S. Carlos, ad saxa granitica, *Spruce*, n. 1004; ibidem ad arbores, *Spruce*, n. 1005. Andes Quitenses, *Jameson*; Antombos ad fl. Pastasa (5000 ped.), *Spruce*, n. 1006. Andes Peruvianæ, in monte Campana (4000 ped.), *Spruce*, n. 1010; Tarapoto, in saxis rivulorum (1500 ped.), *Spruce*, n. 1011; ibidem ad arbores, *Spruce*, n. 1012, 1015, et in rivulis, *Spruce*, n. 1013; fl. Orinoco, ad cataractas Maypures, *Spruce*, n. 1014. Brasilia, Sierra dos Orgaos, *Gardner*, n. 102; prope Rio de Janeiro, *Milne*, in monte Corcovado, *Gardner*, n. 104; Brasilia tropica, *Burchell*, n. 5649. 2.

Species adspectu valde diversa interdum ramis brevibus in cæspitem compactum congestis, interdum ramis simplicibus curvatis elongatis cæspitem laxiorem formantibus. Folia viridia flavescentia vel fuscescentia, nitida vel parum obscuriora subnitida. Pedunculus 1–1½-uncialis.

The synonymy of this species as quoted in Müller's 'Synopsis' has been taken only so far as relates to the two species referred to this species by himself; it is certainly not the same as Swartz's specimen in Herb. Hooker.

11. S. AGNATUM (*Hampe*). Rami breves, depressi, cæspitosi. Folia patentia, concava, margine latiuscule implana vel parum recurva, cellulis alaribus basilaribus mediisque angustis flavis, superioribus minutis ellipticis; perichætialia erecta, oblongo-lanceolata, brevinervata, margine reflexa. Theca in pedunculo elongato, oblongo-cylindracea, recta vel curvata, peristomii dentibus extus scabris intus trabeculatis, interni processibus in membrana usque ad ⅓ dentium longitudinis exserta impositis.

Hab. Andes Bogotenses, Tequendama (2500 metr.), *Lindig*; prope Bogota, *Weir*, n. 423.

S. galipensi minus, foliis brevioribus diversum videtur.

12. S. FLACCIDIFOLIUM (*C. Müll. Syn.* ii. 333, Hypnum). Repens, laxe cæspitulosum, erectum, ramis simplicibus laxissime foliosis flaccidis erectis v. vix curvulis sordide lutescentibus. Folia caulina laxe patula, indistincte secunda, implana, margine erecto, nervis et cellulis *S. cæspitosi*, perichætialia caulinis longiora et caviora. Theca in pedunculo breviusculo purpureo lævi horizontalis v. nutans, oblonga, ore constricta, exannulata; peristomium *S. cæspitosi.*—*C. Müll. l. c.*

Hab. Ins. Trinidad, *Crüger*.

Ab *S. cæspitoso* theca horizontali oblonga longiore robustiore, foliis planiusculis distinctius secundis laxissime imbricatis, ramis flaccidis, ab *S. Kegeliano* v. *tenui* simillimo areolatione folii et peristomio differt.—*C. Müll. l. c.*

13. S. SECUNDIFOLIUM (*C. Müll. Syn.* ii. 343, Hypnum). Folia tereti-imbricata, patentia, marginibus recurvis, breviter nervatis, cellulis angustis, alaribus parvis angustis parum conspicuis.

Hypnum lithophilum, *Hook. f. et Wils. Crypt. Antarct.* t. 155. f. 4.

Hab. Fuegia, Hermite Island, *J. D. Hooker*.

S. galipensi affine.

14. S. INCONSPICUUM (*Hornsch. in Mart. Fl. Bras. Musc.* 86, Hypnum). *S. loxensi* simile, sed folia caulina regularia, haud implanata, margine erecto v. parum convexo, haud valde reflexo, cellulis angustioribus et longioribus tenerioribus, alaribus superioribus minutis; perichætialia va-

ginantia, anguste lanceolato-acuminata, intima longissima pellucida elongate anguste reticulata enervia. Theca in pedunculo mediocri suberecta v. cernua, oblonga, peristomio *S. loxensis.*—*C. Müll. Syn.* ii. 332.

Hab. Brasilia, *Martius.*

Ab *S. cæspitoso* foliis latioribus, e cellulis robustioribus magis ellipticis haud angustissimis elongatis compositis planiusculis differt.—*C. Müll. l. c.*

15. S. LEPTOTHECIUM (*Mitt.*). Rami ramulis brevibus laxe cæspitosi. Folia undique patentia, laxe imbricata, concava, marginibus recurvis inferne reflexis, cellulis apice ellipticis, inferioribus angustis, alaribus tribus fuscis parum conspicuis; perichætialia erecta, interna oblongo-lanceolata, integerrima, marginibus inferne reflexis, breviter obsolete nervata. Theca in pedunculo gracili pallido, elongato-cylindracea, leptoderma, inclinata, ore subobliquo, peristomii parvi dentibus latiusculis intus trabeculatis, extus asperis; interni processibus æquilongis in membrana ad tertiam longitudinis eorum exserta impositis, ciliis nullis.

Hab. Andes Bogotenses, *Weir*, n. 423.

Ex habitu *S. Kegeliano S. loxensi*que similis, sed fructu longe diversum.

16. S. CUCULLATIFOLIUM (*Hampe in Ann. Sc. Nat.* ser. 5. v. 328, Hypnum). Caulis procumbens, ramis brevibus adscendentibus. Folia laxe vel appresse imbricata, in apicibus ramorum in cuspidem congesta, margine integerrima, superne inflexa subcucullata, concava, brevissime obsoletinervia, cellulis angustis alaribus hyalinis laxis; perichætialia erecta, elliptico-lanceolata, obtusiuscula, margine reflexa. Theca in pedunculo brevi, ovalis, inclinata suberectave, peristomii dentibus latis brevibus intus valde trabeculatis, interni processibus ciliisque in unum coalitis in membrana ad $\frac{1}{3}$ dentium longitudinis exserta impositis.

Hab. Andes Bogotenses, Tequendama in udis (2400 metr.), *Lindig.*

Rami 3–6 lineas alti. Folia straminea vel fere ubique fuscescentia. Pedunculus vix $\frac{1}{2}$-uncialis.

17. S. FLAVIDUM (*Mitt.*). Rami repentes, ramulis pluribus cæspitosi. Folia undique patula, parum concava, marginibus recurvis integerrimis, cellulis elongatis angustis, alaribus quatuor pallidis; perichætialia erecta, oblonga, breviter acuminata, apicibus subserrulatis. Theca in pedunculo gracillimo apice sublævi inclinata, horizontalis, peristomii dentibus brevibus intus trabeculatis extus subscabris, interni processibus in membrana ad tertiam eorum longitudinis exserta impositis, ciliis nullis.

Hab. Andes Bogotenses, ad viam inter Bogota et Fusagasuga (8600 ped.) in ramulis emortuis, *Weir*, n. 233.

Rami gracillimi, intricati, ramulis 2–3-uncialibus. Folia pulchre aureo-flavida, nitida, sicca vix mutata. Pedunculus uncialis.

18. S. FULVUM (*Hornsch. in Mart. Fl. Bras. Musc.* 73, Leskea). Caulis repens, ramosus, ramis erectis simplicibus rarius ramulosis dense foliosis

rufescentibus. Folia caulina dense imbricata, patentia, enervia, nitentia, profunde concava, pellucida, inferne fuscescentia, superne pallide viridia, cellulis linearibus confertis; perichætialia ovato-acuminata, intima lanceolata, longius acuminata, subvaginantia. Theca in pedunculo breviusculo tortili lævi purpurascente suberecta v. cernua, parva, oblonga, parum inæqualis, brunnea, basi fusca, operculo subulato obliquo thecam æquante; peristomii dentes exteriores inferne ferruginei, interiores solidi subhyalini, ciliis rudimentariis.

Hypnum pyrrhophyllum, *C. Müll. Syn.* ii. 344.

Hab. Brasilia, prov. Rio Negro, ad fl. Japurá in montibus Araracoara et Cupati, *Martius*.

19. S. ANDINUM (*Mitt.*). Folia patentia, subcompressa, concava, marginibus subrecurvis, cellulis angustis breviusculis, alaribus tribus flavis; perichætialia longiora, erecta, lanceolata subulata, breviter nervata, apice subintegerrima. Theca in pedunculo breviusculo, ovalis, inclinata, ore obliquo, peristomii interni ciliis singulis brevibus.

Hab. Andes Quitenses, Leito, in lignis (8000 ped.), *Spruce*, n. 985.

S. Beyrichii simillimum, folia autem nervis omnino carentia.

20. S. SERICIFOLIUM (*Mitt.*). Folia patentia, compressa, concava, enervia, marginibus superne incurvis integerrimis, cellulis elongatis angustis, alaribus tribus magnis pallidis; perichætialia caulina non excedentia, ovalia, acuminata, apicibus serrulatis enerviis. Theca in pedunculo brevi, ovalis, inclinata, operculo longissime subulato thecam superante.

Hypnum cæspitosum, *R. A. Hedwig in Herb. Hooker.*

Hab. Ins. Cuba, ad ligna putrida, *Wright*, n. 111 (*Hypnum Beyrichii*).

Species parva, depressa, foliis stramineo-viridibus nitidis.

21. S. SUBNERVATUM (*Mitt.*). Folia imbricata, patentia, concava, integerrima, marginibus recurvis, cellulis apice abbreviatis, basi elongatis angustis, ad angulos paucis subquadratis; perichætialia erecta, anguste lanceolata, apicibus subintegerrimis. Theca in pedunculo breviusculo, ovalis, inclinata, inæqualis, ore satis magno, peristomii interni ciliis rudimentariis.

Hab. Andes Quitenses, in sylva Canelos ad rivulum Topo (3000 ped.), *Spruce*, n. 996.

Statura *S. cæspitoso* convenit, sed folia superne angustiora.

22. S. AFFINE (*Hornsch. in Mart. Fl. Bras. Musc.* 71, Leskea). Caulis repens, fasciculatim ramosus, ramis subsimplicibus flexuosis incurvatis laxis rufis. Folia densa, subsecunda, erecto-patentia, integerrima, enervia, concava, involuta, straminea, nitentia, cellulis linearibus obsoletis; perichætialia exteriora latissime ovata, acuminata, profunde concava, obscure serrulata, enervia, dilute rufescentia, laxius reticulata, interiora latiora, brevius acuminata, intima minutissima, latissima, subrotunda, mucronulata, cellulis parallelogrammis laxis. Theca in pedunculo erecto gracili flexuoso lævi purpurascente suberecta, oblonga, rufescens; peristomii

dentes exteriores intus valde cristati, linea perpendiculari diaphana exarati rufescentes, interiores solidi, ciliis rudimentariis.

Hypnum conterminum, *C. Müll. Syn.* ii. 341.

Hab. Brasilia, in sylvis ad arbores prope Tijuca, vicinia Rio Janeiro, *Beyrich.*

23. S. SUCCEDANEUM (*Hook. f. et Wils. Crypt. Ant.* 420, Hypnum). Folia laxe imbricata, sicca et humida patula subsquarrosa, caviuscula, margine subreflexa, cellulis parallelogrammicis; perichætialia longiora, apice subsquarrosa.—*C. Müll. Syn.* ii. 341.

Hab. Brasilia, prov. Rio prope Novo-Friburgum, *Martius,* inter *S. loxense β. rivulare.*

24. S. HEDWIGII (*Wils. in Hook. Kew Journ.* iii. 353, Leskea). Folia subcompressa, in apicibus ramorum secunda, patentia, laxe imbricata, integerrima, marginibus planiusculis, cellulis ad angulos paucis subquadratis flavidis, reliquis omnibus angustis brevibus; perichætialia erecta, e basi lata oblongo-subulata, breviter nervata, integerrima. Theca elongate ovalis, erecta, æqualis subinæqualisve, peristomii interni processibus in membrana fere ad dentium medium exserta impositis, ciliis rudimentariis.

Hab. Andes Quitenses, in monte Pichincha, *Jameson,* in monte Cayambe, *Jameson, Spruce,* n. 984.

S. cæspitoso gracilius, foliis acumine elongato terminatis.

25. S. CRINITIFOLIUM (*Hampe in Ann. Sc. Nat.* ser. 5. v. 326, Hypnum). Laxe pulvinatim cæspitosum, adnatum, intense lutescens vel pallide flavescens, nitens; caulis dense ramosus, ramis brevibus adscendentibus rigidiusculis, apice acutis, parum secundis. Folia subsecunda laxe imbricata subpungentia, e basi angustiore concava, latere revoluto bistriata, integerrima, enervia, cellulis alaribus paucis, intermediis majoribus, basilaribus angustioribus, omnibus lutescenti-aureis, cæteris elongatis linearibus, tota folia fere limpido-hyalina; perichætialia interna majora, erecta, cellulis basilaribus luteis, cæteris elongatis hyalinis, subconformia. Seta gracilis elongata, subuncialis, strictiuscula, apice parum incrassata, glabra. Theca parva angusta, obovata vel oblonga, adscendenti-horizontalis, sub ore parum constricta, rufescens, vetusta opaca; operculo prominente pallide croceo umbonato-conico-rostrato, thecam subæquante vel paulo breviore; peristomii dentibus exterioribus lanceolatis acutis brevioribus, valde trabeculatis, linea media notatis, rubris, apice incurvis; interioris cruribus carinatis prominentibus integris luteis, cilio dentiformi brevissimo interjecto.—*Hampe, l. c.*

Hab. Andes Bogotenses, Tequendama et Escaleros (2500 metr.), ad arbores, *Lindig,* n. 2153.

26. S. SUBBRACHYCARPUM (*Hampe in Ann. Sc. Nat.* ser. 5. v. 327, Hypnum). Monoicum, laxius cæspitosum, dense ramosum, robustius, flavescenti-viride, nitens, ramis compressis, turgidis, apice aduncis. Folia

laxe imbricata, subsecunda, erecto-patentia, concava, e basi contracta, margine reflexo, acuminata, acumine parce dentato, enervia; cellulis alaribus elongato-quadratis, intermediis basilaribus angustioribus aureis, cæteris linearibus hyalinis, nodulis splendentibus clausis; perichætialia basi truncata, parce striata, ovato-lanceolata, elongata, attenuato-acuminata, integerrima, enervia, cellulis basilaribus laxioribus, flavidis, versus apicem linearibus, subhyalinis. Seta adscendens, uncialis, rubra, apice parum incrassata. Theca incurvata, oblique obovata, deoperculata brevicollis, aurea vel rufescens, ore patulo, operculo umbonato-conico-rostrato intense croceo; peristomio intense croceo convoluto.—*Hampe, l. c.*

Hab. Andes Bogotenses, Pacho et Tequendana, Escaleros, Pie de Cuesta (1200–2500 metr.) in sylvis ad arbores, *Lindig.*

S. brachycarpo Africæ australis proximum.—*Hampe, l. c.*

27. S. ADMISTUM (*Sulliv. in Proceed. Amer. Acad.* 1861, 289). Intricatum. Folia patentia, sursum secunda, concava, enervia, marginibus planis, cellulis angustis, alaribus pallidis; perichætialia erecta, caulinis similia, subenervia. Theca in pedunculo brevi, ovalis, inclinata, inæqualis, operculo subulato curvato, peristomii interni ciliis singulis breviusculis.

Hab. Ins. Cuba, *Wright,* n. 121.

S. Kegeliano simile, foliis autem angustioribus differt.

28. S. FRAGILIROSTRUM (*Hampe in Linnæa,* xxxii. 163, Hypnum). Depresso-pulvinatum, expansum, lutescens, aureo-splendens; caulis tenuis, prostratus, breviter ramosus, ramulis adscendentibus laxe foliatis apice attenuatis secundo-falcatis. Folia undique imbricata, patenti-flexuosa vel superiora subsecunda, cellulis alaribus tribus majoribus ellipticis luteis hyalinis, intermediis basilaribus angustioribus aureis, cæteris linearibus, lutescenti-diaphana; perichætialia pauca, breviora, pallida, late ovata, acuminata, apice dentata, cellulis parum laxioribus hyalina; perigonialia convoluta, subrotundo-ovata, acuta, integerrima. Seta gracilis, fere uncialis, adscendens, fuscata, apice incrassata, callosa, inclinata, parce scabriuscula. Theca nutans, oblongo-cylindrica, vetusta sub ore constricta; operculi subula tenerrima flaccida fragilis; calyptra angusta, longissima, glabra, lutescens.

Hab. Andes Bogotenses, La Penna in convallibus humidis ad saxa (2000 metr.), *Lindig.*

29. S. CHRYSOSTEGUM (*C. Müll. Syn.* ii. 686, Hypnum). Cæspites humiles, densi, lutescentes, *H. Kegeliano* haud dissimiles, sed caulis vix compressus, apice parum incurvus, haud uncinatus, subtenellus, gracilior. Folia parum secunda, nunquam asymmetrica, e cellulis pallidioribus tenerioribus, apice haud ellipticis, sed ubique æqualibus areolata, margine anguste reflexa, integerrima, basi flavicantia, cellulis alaribus distinctissimis majoribus amœne flavidis vesiculæformibus; perichætialia parum longius acuminata, basi valde flavida, distincte binervia, intima minora enervia. Theca in pedunculo breviusculo rutilante lævi tenero erecta vel

ob pedunculum superne parum curvatum vix inclinata, minuta, tenella, obconica, madore minute oblonga, exannulata, olivacea, dein fusca, operculo e cupulata basi longe oblique subulato aureo; peristomii dentes exteriores breves, angusti, pallidi, intus valde cristati, interiores æquilongi, angustissimi, solidi, flavidi, ciliis binis breviusculis interpositis.—*C. Müll. l. c.*

Hab. Venezuela, Galipan, ad truncos arborum putridos (4000 ped.), *Wagner.*

30. S. KEGELIANUM (*C. Müll. in Linnæa,* xxi. 198, Leskea, et *Syn.* ii. 325, Hypnum). Folia undique laxe imbricata, patentia, subcompressa, sursum secunda recurvave, latissima, parum excavata, enervia, marginibus apice recurvis inferne reflexis, cellulis inferne angustis, alaribus parvis apicem versus ellipticis ovalibusque obscuriusculis; perichætialia erecta, elliptico-lanceolata, obsoletinervia. Theca in pedunculo breviusculo, oblonga, inclinata, peristomii dentibus intus trabeculatis, processibus in membrana ad tertiam longitudinis suæ exserta impositis.

Hab. Ins. Dominica, ex *Herb. Montagne*; Jamaica, *Wilds*; Surinam, ex *Herb. Dozy*; Guiana, *Parker.* Fl. Amazon, Pará, *Spruce,* n. 978; ad palmas in fl. Guamá ripis prope Pará, *Spruce,* n. 976; Rio Aripecuru, *Spruce,* n. 973; fl. Negro, S. Carlos, *Spruce,* n. 977. Andes Peruvianæ, Tarapoto, in rivulo (1800 ped.), *Spruce,* n. 972; in monte Guayrapurina (2500 ped.), *Spruce,* n. 974; ad rivulum Shillicaio in arboribus (1500 ped.), *Spruce,* n. 975. Andes Quitenses, Chimborazo, *Jameson*; Guayaquil ad fl. Ventanas, *Spruce,* n. 971.

31. S. CIRCINALE (*Hampe, Ic. Musc.* t. 5, Leskea). Rami assurgentes, curvati. Folia patentia, tereti-imbricata, excavata, marginibus recurvis, cellulis alaribus circiter sex inde subquadratis, superioribus ad margines apiceque oblongis, in folii medio ellipticis; perichætialia elongate lanceolata, erecta. Theca in pedunculo breviusculo erecta, breviter ovalis, ore satis magno, peristomii dentibus basi latis, interni processibus ciliisque rudimentariis in membrana ad tertium dentiam longitudinis exserta impositis.

Hypnum Hampeanum, *C. Müll. Syn.* ii. 326.
H. concavifolium, *Hook. et Wils.*
Neckera straminea, *Hornsch. in Mart. Fl. Bras. Musc.* 54, ex *C. Müller.*

Hab. Brasilia, *Gardner,* n. 96; Rio de Janeiro, *Milne.*

32. S. SUBSCABRUM (*C. Müll. Syn.* ii. 314, Hypnum). Procumbens, irregulari-pinnatum. Folia laxe subcompressa, concava, margine erecta angusteve recurva, cellulis angustis, alaribus parum conspicuis pallide luteis; perichætialia pauca, caulinis breviora, lata, apice acuta. Theca in pedunculo elongato "apice subscabro" horizontalis, parva, oblonga, peristomii dentibus pallidis intus trabeculatis, interni processibus in membrana ad tertiam partem dentium longitudinis exserta impositis, ciliis singulis.

Hab. Venezuela, prov. Merida prope Merida (6500 ped.), *Funck et Schlim*, 995, ex parte. Andes Bogotenses, Tequendama, Canoas, Sociego (2500–2700 metr.), *Lindig*.

Caulis uncialis, ramis 2–5-linearibus. Folia viridia, subnitida. Pedunculus ¾-uncialis, ruber, apice vix scaber. Perichætium ab illo S. *Schlimii* diversum.

33. S. LINDIGII (*Hampe in Ann. Sc. Nat.* ser. 5. v. 330, Hypnum). Decumbens, ramis inæquilongis pinnatum. Folia compressa, concava, margine inferne recurva, cellulis elongatis, alaribus parum conspicuis luteis; perichætialia duplo majora, erecta, integerrima, obsoletinervia. Theca in pedunculo elongato, parva, oblonga, curvata, horizontalis, peristomii dentibus pallidis intus trabeculatis, interni processibus in membrana ciliis in unum conflatis interjectis impositis.

Hab. Andes Bogotenses, Tequendama, Pacho, Cipacon, in sylvis ad truncos (2200–2500 metr.), *Lindig*; prope cataractam Tequendama, ad arbores (7500 ped.), *Weir*, n. 312.

Caules 1–2-unciales, rami 2–4 lineas longi. Folia pallide straminea. Pedunculus uncialis, ruber.

34. S. RORIDUM (*Mitt.*). Caulis pinnatus, gracilis. Folia laxe inserta, concava, marginibus inferne recurvis, cellulis angustissimis elongatis, alaribus satis magnis 3–4 luteis; perichætialia erecta, elongate oblongo-lanceolata, acuminata, marginibus recurvis apice serrulatis. Theca in pedunculo elongato inclinata, ovalis, collo substrumoso, peristomii interni ciliis singulis.

Hab. Andes Bogotenses, Bogota, loco Boqueron, sub rupibus roridis (8600 ped.), ad ramulos, *Weir*, n. 366, 401.

Caulis procumbens, 2–3-uncialis, gracillimus, ruber. Folia pallide fusco-viridia.

35. S. AMŒNUM (*Hedw. Sp. Musc.* t. 77, Hypnum). Decumbens, subpinnatum. Folia concava, marginibus erectis, apice cellulis angustis alaribus paucis pallidis; perichætialia erecta, interna ovata, sensim late acuminata, tenuinervata, marginibus superne serrulatis. Theca in pedunculo breviusculo, ovalis, horizontalis, basi strumosa.

Hab. Fuegia, Hermite Island, *J. D. Hooker*.

36. S. MACRORHYNCHUM (*Hornsch. in Mart. Fl. Bras. Musc.* 81, Hypnum). Caulis repens, gracilis, vage ramosus, ramis subpinnatim ramulosis, ramulis adscendentibus pallide viridibus vel luride lutescentibus. Folia caulina laxe imbricata, latiora, integerrima, enervia, angustissime lineari-areolata; perichætialia ovato-acuminata, interiora lanceolata, breviter acuminata, magis magisque angustata, caulinis similia. Theca in pedunculo gracili flexuoso lævi purpurascente horizontalis, minute obconica, parum curvata; peristomii dentes exteriores lanceolato-subulati lutei, intus cristati, interiores lutei subulati solidi, ciliis solitariis paulo brevioribus capillaribus hyalinis.—*C. Müll. Syn.* ii. 329.

Hab. Brasilia, prope Rio de Janeiro, ad corticem arborum, *Sellow, Merkel.*

37. S. ACISTROSTEGIUM (*Sulliv. in Proceed. Amer. Acad.* 1861, 287, Hypnum). Caulis repens, pinnatus. Folia compressa, lateralia patentia, concava, marginibus erectis, ramea argutius serrulata, cellulis angustis lævibus, alaribus binis trinisve conspicuis flavis. Theca in pedunculo longissimo, ovalis, pendula, peristomii interni ciliis singulis.

Hab. Ins. Cuba, *Wright,* n. 108.

Pallide stramineum, nitidum.

38. S. DECUMBENS (*Wils. MS.,* Hypnum). Depressum, subpinnatum. Folia subcompressa, concava, marginibus erectis in ramulinis paululum recurvis, cellulis angustis lævibus alaribus 3–4 majoribus pallidis; perichætialia erecta, ovato-lanceolata, enervia, sensim acuta, serrulata. Theca in pedunculo elongato, ovalis, horizontalis, demum pendula, peristomii interni ciliis singulis.

Hab. Andes Quitenses, Quito, *Jameson*; in monte Tunguragua, *Spruce.* Andes Bogotenses, ad cataractam Tequendama in arboribus putridis (7500 ped.), *Weir,* n. 315. Brasilia, Sierra dos Orgaos, *Gardner,* inter n. 107.

S. Schlimii statura habituque simillimum, foliis autem cellulis lævibus et perichætialibus latioribus vix acuminatis recedens.

39. S. SCORPIURUS (*Mont. in Ann. Sc. Nat.* ser. 3. iv. 90, Hypnum). Caulis repens, ramis assurgentibus subcompressis humilibus mollibus stramineis parce divisis, apice tenui cuspidato incurvo. Folia caulina laxe imbricata, caviuscula, margine erecto v. parum involutaceo, nervis obsoletis, cellulis longiusculis pallidis, basi flavidis, alaribus majusculis flavidis quaternis superne semel articulatis; perichætialia erecta, longe vaginantia, subplicata, laxe reticulata, basi flavida, brevius acuminata subdenticulata. Theca in pedunculo brevi badio lævi horizontalis, oblonga, badia, exannulata; peristomii dentes exteriores robusti rufescentes, latere valde cristati et linea media valde exarati, interiores æquilongi, subpertusi, flavi, ciliis interjectis binis.—*Mont. l. c.*

Hab. Chili, *C. Gay.*

40. S. LILIPUTIANUM (*Mont. in Gay, Hist. Chili Crypt.* t. xx. f. 3, Hypnum). Perpusillum, procumbens. Folia erecto-patentia, cellulis alaribus conspicuis. Theca inclinata, ore satis magno, peristomii interni ciliis in unum coalitis.

Hab. Chili.

Folia in icone supra citata cellulis basilaribus per folii basin æqualibus majusculis oblongis delineantur.

41. S. LEPTOPHYLLUM (*Mitt.*). Dioicum?; caulis procumbens, ramis assurgentibus pinnatus. Folia compressa, concava, basi angusta, nervis obsoletis, cellulis angustis elongatis, alaribus conspicuis pluribus; perichætialia erecta, oblongo-lanceolata, subulata, apicibus caulinis brevioribus

integerrimis. Theca in pedunculo breviusculo horizontalis, ovali-secundracea, peristomii interni ciliis singulis in membrana ad dentium supdium exserta impositis.

Hab. Chili, Arique, *Lechler.*

S. tenuirostri Hook. simile, sed foliis teneris pallidis acumine longiore, cellulis alaribus magis conspicuis, superioribus lævissimis, et perichætialibus acuminatis diversum.

Ab *S. amœno* cui magnitudine et foliis simile est, perichætio recedit.

42. S. OLFERSII (*Hornsch. in Mart. Fl. Bras. Musc.* 83, Hypnum). Caulis repens, laxe irregulariter pinnatus, ramis brevibus subsimplicibus patentibus prostratis albescenti-viridibus. Folia caulina subdisticha, laxe imbricata, subhomomalla, lineari-areolata; perichætialia intima angustissima et longissime acuminata, omnia integerrima, enervia, concava, dilute pallide viridia, lineari-areolata. Theca in pedunculo gracili tortili lævi purpurascente apice curvato horizontalis, minute oblonga æqualis; peristomii dentes exteriores intus cristati, ferruginei, interni lutei solidi, ciliis brevioribus subulatis hyalinis interpositis.—*C. Müll. Syn.* ii. 287.

Hab. Brasilia, Tijuca in vicinia Rio Janeiro, *Olfers.*

43. S. ERYTHROPODIUM (*Mitt.*). Caulis depressus, pinnatim ramosus. Folia compressa, ramea anguste lanceolata, subulata, concava, marginibus recurvis integerrimis, cellulis angustis, alaribus parvis 4–5 pallidis; perichætialia erecta, longiora, lanceolata, subulata, tenuinervata, marginibus recurvis superne subserrulatis. Theca in pedunculo prælongo, parva, ovalis, horizontalis.

Hab. Venezuela, prov. Caracas (4000 ped.), *Funck et Schlim,* n. 357, et inter *Cladoniam* quamdam, n. 396. Andes Bogotenses, ad viam inter Bogota et Fusagasuga (8200 ped.), in ramis putridis, *Weir,* n. 123.

S. leptochæto simile, folia autem angustiora, longius acuminata.

44. S. CALLIDUM (*Mont. in Ann. Sc. Nat.* ser. 3. iv. 90, Hypnum). Depressum, pinnatum. Folia subcompressa, parum concava, marginibus anguste recurvis, superne cellulis angustis elongatis lævibus, alaribus magnis tribus; perichætialia erecta, in cylindrum convoluta, ovato-lanceolata, acuta, apice serrulata. Theca in pedunculo breviusculo, ovalis, subpyriformis, nutans, basi subapophysata, peristomii interni ciliis singulis inter processus æquilongis, in membrana ad tertiam eorum longitudinis exserta impositis.

Hab. Chili, ad Arique, *Lechler,* n. 630; ad fl. Futa in prov. Valdiviæ, *Lechler.*

45. S. INSULOSUM (*Sulliv.*). Depressum, pinnatum. Folia subcompressa, patentia, concava, marginibus anguste planis, cellulis angustis lævibus, alaribus tribus conspicuis; perichætialia erecta, ovata, subulata,

subintegerrima, enervia. Theca in pedunculo elongato horizontalis, ov, inæqualis, parva.

Hab. Ins. Cuba, ad ligna putrida, *Wright*, n. 102.

46. S. XYLOPHILUM (*Mitt.*). Depressum, pinnatum. Folia subcompressa, patentia, concava, marginibus inferne recurvis, cellulis elongat angustis lævibus, alaribus tribus majoribus; perichætialia erecta, anguste lanceolata, subulata, serrulata. Theca in pedunculo gracillimo, ovalis, horizontalis nutansve, peristomii interni ciliis singulis in membrana ad tertiam longitudinis eorum exserta impositis.

Hab. Ins. Cuba, *Wright*, n. 115 (H. callidum).

A *S. callido*, foliis minus anguste subulatis et perichætialibus diversum.

47. S. SCHWANECKIANUM (*C. Müll. in Bot. Zeit.* 1858, 172, Hypnum). Rami abbreviati, assurgentes. Folia subcompressa, patentia, imbricata, marginibus superne incurvis serrulatis, cellulis angustissimis, alaribus magnis tribus; perichætialia breviora, e basi ovata sensim loriformi-acuminata, argutius serrulata, enervia. Theca in pedunculo superne subscabro, ovalis, inclinata, collo rugoso, peristomio parvo.

Hab. Ins. Cuba, *Wright*, n. 117.

48. S. LONGIROSTRATUM (*C. Müll. Syn.* ii. 393, Hypnum). Caulis repens, ramis perpusillis parce divisis erectis pallide lutescentibus teneris homalophyllis. Folia caulina secunda, e basi angustiore brevissima, cellulis alaribus utrinque binis majusculis flavidis prædita, strictiuscula v. curvula, cymbiformi-cava, cellulis elongatis angustis pallidis; perichætialia pauca, minuta, late obovata, vaginantia, serrulata, acumine brevi angusto denticulato terminata, laxius reticulata subcolorata. Theca in pedunculo breviusculo rubro lævi erecta, minuta, ovalis.—*C. Müll. l. c.*

Hab. Ins. Porto Rico, ad arborum corticem, *Bertero*.

Ab *Hypno tenello* Europæo cum quo cl. auctor comparavit longe alienum. E descriptione foliorum perichætialium forsan cellulis foliorum papilliferis et inter species sectionis insequentis ponendum.

49. S. OBLIQUEROSTRATUM (*Mitt.*). Decumbens, laxe pinnatum. Folia subcompressa, lateralia patentia, concava, marginibus recurvis integerrimis, enervia, cellulis elongatis angustis lævibus, alaribus pallidis 4; perichætialia erecta, lanceolato-subulata, nervata enerviave, marginibus superne subserrulatis apice recurvis. Theca in pedunculo prælongo, parva, ovalis, brevicollis, inæqualis, horizontalis, peristomii interni ciliis singulis latis in membrana ad longitudinis dimidium dentium exserta impositis.

Hab. Andes Quitenses, Chimborazo, *Jameson*; fl. Pastasa, secus ostia rivuli Verde dicti (4000 ped.), *Spruce*, n. 1001; in monte Tunguragua, in lignis (7000 ped.), *Spruce*, n. 1002; in sylva Canelos (4000 ped.), *Spruce*, n. 1003.

Rami 2–3 uncias longi, procumbentes, ramulis ½-uncialibus laxe subpinnati, cum foliis lineam crassi. Folia pallide viridi-straminea, nitida. Pedunculus 1¼-uncialis.

50. S. PROMINULUM (*Mitt.*). Depressum, pinnatum. Folia falcato-secunda, concava, marginibus apice recurvis, cellulis elongatis angustis, supra folii medium apicibus dorso prominentibus evidenter papilliformibus, alaribus parvis 3–4 luteis; perichætialia erecta, lanceolata, acuminata, marginibus recurvis apice serrulatis. Theca in pedunculo breviusculo, ovalis, horizontalis, peristomii dentibus supra medium subulato-angustatis, intus valde trabeculatis, interni ciliis angustis breviusculis.

Hab. Andes Peruvianæ, in monte Lamas (2000 ped.), *Spruce*, n. 1008.

S. decumbenti colore statura habituque simile, sed folia acumine breviore, dorso evidenter papillata.

51. S. NODULIFERUM (*Mitt.*). Depressum, cæspitosum. Folia concava, marginibus reflexis, cellulis elongatis angustis limitibus noduloso-prominulis, alaribus tribus pallidis; perichætialia erecta, externa ovata, acuminata, interna oblonga, acumine brevi latiusculo serrulato. Theca in pedunculo breviusculo, ovalis, horizontalis, demum pendula, peristomii interni processibus angustissime attenuatis, ciliis singulis.

Hab. Fuegia, Hermite Island, *J. D. Hooker.*

Pallide viride fuscescens. Pedunculus ½-uncialis, crassiusculus, ruber.

52. S. SCHLIMII (*C. Müll. in Bot. Zeit.* 1848, 781, Hypnum). Repens, ramis assurgentibus. Folia subcompressa, curvata, concava, nervis obsoletis, marginibus anguste recurvis, cellulis angustis, dorso supra folii medium apicibus prominulis papilliformibus, alaribus conspicuis tribus luteis; perichætialia erectiuscula, lanceolata, subulata, argutius serrulata, enervia. Theca in pedunculo breviusculo, ovalis, inæqualis, horizontalis, "operculo turgide conico aurantiaco longe aciculari obliquo," peristomio parvo, interni ciliis singulis brevibus.

Hab. Venezuela, prov. Caracas, Galipan (3000 ped.), in arboribus putridis, *Funck et Schlim*, n. 354.

53. S. TEQUENDAMENSE (*Hampe in Linnæa*, xxxi. 529, Hypnum). Rami breves, ramosi, in cæspitem laxum congesti. Folia concava, margine recurvo, apicem versus latiore implano recurvoque, cellulis alaribus conspicuis flavis, superioribus angustis elongatis limitibus superioribus prominulis; perichætialia erecta, oblonga, acuta, enervia, apice serrulata. Theca in pedunculo elongato, oblongo-ovalis, æqualis subæqualisve, flexura pedunculi inclinata, operculo subulato elongato, peristomii interni processibus in membrana usque ad ⅓ dentium longitudinis exserta insidentibus.

Hab. Andes Bogotenses, Tequendama ad arbores (2500 metr.), *Lindig*, n. 2153; in locis altioribus ad viam inter Bogota et Fusagasuga (8600 ped.), ad ramos ramulosque putrescentes, *Weir*, n. 233.

Rami 3–6 lineas alti rubri, cum foliis lineam lati. Folia laxe imbricata, pulchre aureo-viridia, splendentia. Pedunculus uncialis. Theca parva, senectute infra os constricta.

Sect. 3. *Trichosteleum*, Mitt. in Journ. Linn. Soc. 1868.

Musci pusilli, depresse cæspitosi. Folia inflexa reflexave, margine acumen versus subsinuato. Theca in pedunculo gracillimo elongato, minuta, demum urceolata, operculo longe subulato. Flores monoici.

54. S. PAPILLOSUM (*Hornsch. in Mart. Fl. Bras. Musc.* 82, t. 4, Hypnum). **Folia secunda, subcompressa, concava, ramulina oblongo-lanceolata subulato-acuminata, omnia marginibus inferne recurvis superne flexuosis, cellulis elongatis angustis; perichætialia parva, ovata, longe subulata, serrulata. Theca ovalis, nutans.**

Hab. Surinam, ex *Herb. Dozy*. Fl. Amazon, Pará, in lignis, *Spruce*, n. 899; fl. Negro, Panuré fluvii Uaupés, *Spruce*, n. 900, 901; S. Carlos, *Spruce*, n. 902; ad rivulum Cauapuna, *Spruce*, n. 903; San Gabriel, *Spruce*, n. 904. Brasilia ad truncos emortuos sylvarum antiquissimarum, *Beyrich* (ex *Hornsch.*).

55. S. AMBIGUUM (*Schwægr.* t. 198, Leskea). **Folia subcompressa, concava, ramulina anguste lanceolata, acuta acuminata obtusiusculave, marginibus sæpe planis superne subcrenulatis, cellulis elongatis angustis, papilla unica medio imposita, alaribus tribus fuscis conspicuis; perichætialia patentia, lanceolata, acuminata, denticulata. Theca in pedunculo rubro lævi, breviter ovalis, nutans, peristomii dentibus supra medium subulato-angustatis, interni ciliis singulis.**

Hypnum microcarpum, *Hornsch. in Mart. Fl. Bras. Musc.* t. 4.

H. Hornschuchii, *Hampe*; *C. Müll. Syn.* ii. 406.

Hab. Fl. Amazon, Pará, *Martius*; fl. Aripecuru, *Spruce*, n. 937; Santarem, in carbonibus, *Spruce*, n. 912, 938; ibidem in lignis, n. 911; fl. Negro, S. Gabriel, in lignis, *Spruce*, n. 908, 934; Marabitanas, n. 909, ad rivulum Cauapuna, n. 913, 933, S. Carlos, n. 914, Manaos, n. 932, Uaiauáca, n. 935; Casiquiari, in truncis vetustis inundatis, n. 936, 915; S. Carlos, ad ligna in pomariis, n. 939; Manaos, in truncis decisis ubique, n. 940. Andes Peruvianæ, Tarapoto (1500 ped.), *Spruce*, n. 910.

56. S. RUBRISETUM (*Mitt.*). **Folia subcompressa, concava, marginibus recurvis, cellulis elongatis; perichætialia erecta, oblongo-lanceolata, vix acuminata, subserrulata. Theca in pedunculo rubro, minutissima, ovalis, inclinata, deinde nutans.**

Hab. Fl. Negro (secus ejus caput), ad Cano Pimichin, *Spruce*, n. 917; S. Gabriel, n. 918, ad Panuré fl. Uaupés, n. 919; fl. Huallaga, Yurimaguas, ad carbonis, *Spruce*, n. 916. Andes Quitenses, in sylva Canelos (3000 ped.), *Spruce*, n. 920.

Pallide viride stramineum. Folia laxiuscule inserta, subnitida.

S. papilloso gracilius; folia evidentius compressa, margine superiore haud torto, perichætialiaque vix acuminata. Theca tenuis; sporangium transparens.

57. S. SENTOSUM (*Sulliv.*). Folia subcompressa, subsecunda, patentia, concava, cellulis elongatis, papilla valde exserta grossiuscula; ramulina argutius serrulata; perichætialia erectiuscula, ovata, subulato-acuminata, ciliato-denticulata. Theca in pedunculo breviusculo, ovalis, nutans.

Hab. Ins. Cuba, *Wright*, n. 116.

58. S. VINCENTINUM (*Mitt.*). Folia compressa, subsecunda, patentia, marginibus superioribus subflexuosis subincurvis, cellulis angustis, papilla prominula; perichætialia interna elongata, ovata, superne dentata, acumine elongato ciliato-serrulato. Theca in pedunculo breviusculo apice scabro, ovalis, nutans.

Hab. Ins. Sancti Vincentis, *Herb. Hooker.*

S. papilloso statura simile. Folia luteo-viridia.

59. S. APIOCARPUM (*Mitt.*). Tenellum. Folia compressa, patentia, concava, margine recurva, cellulis alaribus pluribus conspicuis, superioribus elongatis, papillis valde prominentibus; perichætialia parva, ovali-subulata, serrulata. Theca minute pyriformis, pendula, peristomii interni ciliis in unum coalitis.

Hab. Ins. Trinidad, *Crüger.*

S. rubriseto simillimum, sed foliis acumine breviore, cellulis papillis multo validioribus, et statura paululum minore diversum.

60. S. CONSANGUINEUM (*Mitt.*). Folia patula, undique dense inserta, concava, marginibus recurvis superne flexuosis, cellulis abbreviatis late ellipticis, papilla grossiuscula prominente; perichætialia parva, lanceolata, subulato-acuminata, serrulata. Theca in pedunculo breviusculo rufo, ovalis, horizontalis.

Hab. Brasilia, ins. Sanctæ Catharinæ, *Pabst*, ex *Herb. C. Müller.*

Magnitudine *S. papilloso* simillimum, sed folia undique patentia opaca, cellulis abbreviatis.

61. S. FLUVIALE (*Mitt.*). Folia compressa, patentia, concava, marginibus recurvis, cellulis elongatis; perichætialia erecta, lanceolato-subulata, serrulata. Theca minutissima, ovalis, pendula, peristomii interni ciliis singulis inter processus æquilongos in membrana ad medium exserta impositis.

Hab. Nova Granata. Fl. Magdalena, in sylvis, *Weir*, n. 385.

Formis minoribus *S. Hornschuchii* simile, sed foliis multo evidentius papillosis, a cæteris speciebus parvis foliis papillosis acutis haud acuminatis diversum.

62. S. MICROCARPUM (*Sw. Fl. Ind. Occid.*, Leskea). Pusillum. Folia patentia, concava, cellulis elongatis angustis; perichætialia parva, caulinis similia, serrulata. Theca in pedunculo brevi, minutissima, pyriformis, pendula.

Hab. Ins. Indiæ occidentalis, *Swartz*. Fl. Negro, San Gabriel, *Spruce.*

Andes Peruvianæ, Tarapoto, in lignis (1500 ped.), *Spruce*, n. 918; Guayaquil, ad fl. Daule, *Spruce*, n. 890.

Species e minutissimis. Folia nitida, pallide stramineo-viridia. Pedunculus flavus, 3-linearis. Theca minuta.

63. S. PUSILLUM (*Hornsch. in Mart. Fl. Bras. Musc.* 85, Hypnum). Caulis exiguus, tenellus, parce divisus, pallide viridis. Folia caulina erecto-patentia, pauca, stricta, cymbiformi-concava, margine anguste revoluto, cellulis elongatis angustis pellucidis pallidis subflexuosis; perichætialia angustissime lanceolato-acuminata, longiuscula, patula, pauca. Theca in pedunculo pro plantulæ exiguitate elongato tenerrimo lævi rutilante flexuoso horizontalis, minutissime pyriformi-urceolata, ore valde coarctata, operculo hemisphærico longe rostrato rectiusculo; peristomii minuti dentes exteriores angustissimi, breves, carnosuli, intus valde cristati, interiores solidi, ciliis singulis brevioribus.—*C. Müll. Syn.* ii. 405.

Hab. Brasilia, Tijuca in vicinia Sebastianopoleos, inter Jungermannias in solo turfoso, *Olfers*.

64. S. ARRECTUM (*Mitt.*). Procumbens. Folia compressa, patentia, concava, marginibus subrecurvis, cellulis elongatis angustis, superioribus papilla inconspicua; perichætialia parva, erecta, ovalia, acuminata, serrulata. Theca in pedunculo brevi, minuta, ovalis, horizontalis; peristomii interni ciliis singulis brevibus in membrana ad dentium exterioris medium exserta impositis.

Hab. Fl. Negro, S. Carlos, ad ligna emortua, *Spruce*, n. 907.

Rami cum foliis pallide alboviridibus latitudine lineares. Pedunculus 3-linearis.

65. S. INUNDATUM (*Mitt.*). Folia subcompressa, patentia, polymorpha, obovata, obtusa, ovata oblonga acuminataque, concava, marginibus recurvis, cellulis parvis ad apicem foliorum latioribus abbreviatis rhombeisve; perichætialia erecta, oblonga, subulata, serrulata. Theca in pedunculo rubro, ovalis, nutans, peristomii interni ciliis singulis.

Hab. Fl. Negro, ad fl. Casiquiari, *Spruce*, n. 921; Marabitanas, n. 922, secus ostia fl. Uaupés, in truncis inundatis, n. 923, in arboribus inundatis, n. 924, Rio Cauapuna in lignis, n. 925, Uaiauáca ad radices præcipue *Citri aurantiæ*, n. 926, in ripis inundatis ad saxa, n. 927, ibidem terrestre, n. 928, S. Gabriel ad rupis inundatis, n. 929, 930, in terra arenosa fl. Uaupés inundata, n. 931, S. Carlos in lignis, n. 905, S. Gabriel in lignis, n. 906.

Sect. 4. *Microcalpe*, Spruce, Cat.

Musci foliis angustissime areolatis. Thecæ parvæ, longe tenuiterque pedunculatæ horizontales vel nutantes. Flores monoici.

66. S. SUBSIMPLEX (*Hedw. Sp. Musc.* t. 69, Hypnum). Caulis prostratus, repens, ramis inæqualibus brevibus elongatisve laxe cæspi-

tosus. Folia subcompressa, in ramorum apicibus subsecunda, laxe imbricata, patentia, parum concava, marginibus vix recurvis integerrimis, cellulis angustissimis elongatis, alaribus 4–5 flavis; perichætialia erectiuscula, subsecunda, lanceolata, subulata, marginibus inferne recurvis superne serrulatis. Theca parva, ovalis, nutans, peristomii interni ciliis singulis.

Hab. Ins. Trinidad, *Crüger*, ex *C. Müller*; Nova Granata, *Weir*, n. 427; Surinam, ex *Herb. Dozy*; Guiana, *Parker*. Fl. Amazon, Igaripe dos Ramos, *Spruce*, n. 853 *b*, Obidos, n. 857, Santarem, n. 858, Pará, in lignis, n. 868, 880. Fl. Negro superius Guainia dictum, *Spruce*, n. 854, fl. Casiquiari, n. 856, in sylva Javita, n. 859, Marabitanas, n. 860, et forma major, n. 861, Manaos, n. 862, ibidem in lignis ad rivuli ripas, n. 863, ad cataractas S. Gabriel, n. 865, 867, S. Carlos in truncis putridis, n. 869, ad rivuli ripas inter gramina, n. 870, S. Carlos in Caatingas, n. 871, ad arbores sylvarum, n. 873, in sylvis frequens, n. 874, in locis cavis sylvarum, n. 875, ad ligna locis olim cultis, n. 876, ad rivulum Cauapuna in truncis putridis, n. 878, 879, ad rivulum Taruma, in lignis, n. 881, in truncis emortuis in fluv. Uaupés (Panuré), n. 884, ad rivulum prope Manaos, n. 886, ad rivulum Cauapuna prope S. Carlos, n. 887. Fl. Huallaga, *Spruce*, n. 864; fl. Orinoco ad cataractas Maypures, *Spruce*, n. 887. Andes Quitenses, Baños (6000 ped.), *Spruce*, n. 885. Andes Peruvianæ; in monte Guayrapurina (2500 ped.), *Spruce*, n. 883, 885.

Forma minor, Hypnum Richardi, *Schwægr.*

Hab. Ins. Barbadoes, *Parker*; Martinique, *Lieber*; Nova Granata, *Schlim*; Surinam, ex *Herb. Dozy*. Fl. Amazon, Obidos, *Spruce*, n. 848, Caripi prope Pará, n. 850; fl. Negro, San Gabriel, *Spruce*, n. 847, S. Carlos, n. 852. Andes Peruvianæ, Tarapoto (1500 ped.), *Spruce*, n. 849; in monte Guayrapurina (2500 ped.), *Spruce*, n. 851.

Folia pallide viridia, albicantia, nitida, e substantia tenera.

67. S. DECURVIFOLIUM (*Mitt.*). Caulis repens, ramis abbreviatis elongatisve laxe cæspitosus. Folia subcompressa, patentia, in ramulis secunda, marginibus anguste recurvis, cellulis elongatis ad angulos paucis quadratis sæpe incrassatis; perichætialia erecta, lanceolata, subulata, serrulata. Theca parva, pyriformis, operculo longirostro, peristomio magno.

Hab. Fl. Negro, Umirisal prope Manaos ad fruticum ramulos, *Spruce*, n. 845; ad Quirabaena, fluvii Casiquiari, *Spruce*, n. 846, forma procerior foliis omnibus secundis.

Late cæspitosum. Folia juniora pallide viridia, seniora fusca obscura.

A *S. subsimplici* foliis haud acuminatis e substantia crassa margineque recurvis differt.

68. S. MICROCLADUM (*Tayl. in Hook. Lond. Journ.* v. 64, Hypnum). Procumbens, ramis brevibus assurgentibus. Folia subcompressa, patentia, concava, marginibus superne incurvis, cellulis alaribus 3–4 flavis conspicuis; perichætialia elongata, erecta, interna superne latiuscule acu-

minata. Theca in pedunculo longissimo, ovalis, æqualis, flexura pedunculi horizontalis, peristomii interni ciliis singulis brevibus.

Hypnum esmeraldicum, *C. Müll. Syn.* ii. 392.

Hab. Andes Quitenses, Esmeraldas, in sylvis, *Jameson.*

Rami unciales, ramulis 3-linearibus ramosi. Pedunculus sub-2-uncialis.

69. S. LEPTOCHÆTON (*Schwægr.* i. 2. 296, Hypnum). Rami depressi, pinnati. Folia compressa, patentia, apicibus decurvis, concava, marginibus recurvis, cellulis alaribus parvis inconspicuis; perichætialia erecta, anguste lanceolata, subulata, apicibus subintegerrimis, marginibus reflexis. Theca ovalis, nutans, sicca sub ore valde constricta, operculo subulato.

Hab. Ins. Martinique, et in Cayenna, *Richard.* Brasilia, Sierra dos Orgaos in sylvis ad arbores, *Gardner,* n. 112.

Folia viridia, nitida. *S. galipensi* statura simile.

70. S. LAMPROPHYLLUM (*Mitt.*). Folia undique teretiuscule laxe imbricata, vix compressa, patentia, concava, lateralia parum latiora, marginibus ubique erectis, cellulis supra-alaribus paucis 2–3 subquadratis parvis coloratis; perichætialia erecta, oblongo-lanceolata, subulata, obsoletinervia, marginibus inferne reflexis. Theca in pedunculo longissimo rubro, horizontalis, ovalis, inæqualis, operculo subulato.

Hab. Ins. Cuba, *Wright,* n. 127.

Species perbella. Folia aureo-splendentia.

90. TAXITHELIUM, Spruce, Cat.

Folia cellulis papillis pluribus seriatim dispositis areolata.

T. PLANUM (*Brid.* ii. 394; *Schwægr.* t. 280, Hypnum). Monoicum, repens prostratum vel assurgens, pinnatum. Folia compressa, superiora ovata, acuta, lateralia latiora, latissime ovalia, acuta, plus minus complicata, inferiora angustiora, oblongo-lanceolata, omnia basi contracta, apice plus minus breve acuminata concavaque, margine erecta, tenuissime serrulata, cellulis elongatis angustis papillis 3–6 notatis, basilaribus ad angulos paucis quadratis pellucidis, alaribus tribus inconspicuis; perichætialia erectiuscula, a basi latiore lanceolata, subulata, subserrulata. Pedunculus elongatus, gracilis. Theca ovalis, curvata, subhorizontalis, brevicolla, operculo conico acuminato, peristomii interni ciliis singulis.

Hypnum crassicollum, *Tayl. in Hook. Lond. Journ. of Bot.* vi. 337.

H. concavum, *Hook. in Kunth, Syn. Pl. Æq.* 63.

Hab. Ins. Hispaniola, *Poiteau*; Porto Rico, *Bertero*; Trinidad, *Crüger*; Jamaica, *Heward*; Cuba, *Wright,* n. 109, 110; Guadelupe, *Sieber*?; Sti. Vincentis, *Parker*; Panama, *Seemann*; Surinam, *Kegel*; Nova Granata, ad fl. Magdalena prope Barranca Vermeji, in sylvis ad ligna putrida (500 ped.), *Weir,* n. 386. Fl. Amazon, Caripi prope Pará terrestre, *Spruce,* n. 944, ibidem ad ligna, n. 945, in Marañon ripis, n. 949, Pará, n. 951, ibidem ad saxa in horto D. Campbelli, n. 952, Rio Aripecuru, n. 955, ibidem ad saxa infra cataractas, n. 956. Fl. Negro, Cerro

Cocui, *Spruce*, n. 942, ad saxa fl. Casiquiari inundata, n. 953, in monticulo granitico Cerro do Cauapuna, n. 957, in arboribus inundatis ad fl. Uaupes ostia, n. 958, in ramis inundatis, etiam ad rupes frequens, n. 960, in saxis rivuli aquis irroratis prope S. Carlos, n. 962, S. Gabriel ad rupes, n. 966, Manaos, n. 966, ibidem ad rupes, n. 967, in ripis, n. 968. Fl. Huallaga, Yurimaguas, *Spruce*, n. 943, ad cataractas, n. 946. Fl. Orinoco, Maypures, *Spruce*, n. 959, ad rupes cataractæ, n. 963. Andes Quitenses, secus fl. Bombonasa (1300 ped.), *Spruce*, n. 941. Andes Peruvianæ, ad caput rivuli Cumbasa prope Tarapoto (2000 ped.), *Spruce*, n. 947, Chapaja, ad fl. Huallaga (1300 ped.), n. 948, Tarapoto (1500 ped.), n. 954, ad rivulum Shillicaio (1800 ped.), n. 964; Guayaquil, ad fl. Vintanas in lignis, *Spruce*, n. 961; prope Maynas, Peruviæ, *Pœppig*; Brasilia, *Martius, Burchell.*

Tribus XVII. STEREODONTEÆ.

91. SYRIGOTHECIUM, Mitt.

S. SPRUCEI (*Mitt.*). Monoicum, procumbens, ramis inæqualibus pinnatum. Folia compressa, patentia, in seriebus superioribus tribus, ovata, in acumen angustum producta, concava, margine recurva, apice subserrulata, nervis brevissimis fere obsoletis, cellulis basilaribus paucis oblongis subquadratisve, superioribus angustis elongatis; folia lateralia uno latere complicato-inflexo asymmetrica, in seriebus inferioribus minora; perichætialia erecta, elongata, lanceolata, subulata, integerrima. Pedunculus elongatus, ruber. Theca cylindracea, parva, curvata, inclinata, operculo conico sensim subulato-rostrato, peristomii externi dentibus angustis pallide rubris, interni processibus longioribus pallidis carinatis; calyptra angusta.

Hab. Andes Quitenses, in sylva Canelos (3000 ped.), *Spruce*, n. 1517.

Caulis ½-uncialis vel longior, ramis brevibus. Folia ½ lineam longa, pallide viridia, deinde straminea, nitida, sicca vix mutata. Pedunculus 9-linearis. Theca ¾ lineam longa.

Habitu *Ectropothecio subdenticulato* subsimile; theca autem *Amblystegiis* similior.

92. ISOPTERYGIUM, Mitt.

Folia superiora anguste lanceolata, acuta, lateralia ovato-lanceolata, acuminata .... 1. *I. planissimum.*

Folia caulina ovata acuminata, ramea ovato-lanceolata, acuminata. 2. *I. brachyneuron.*

Folia lanceolata, acuminata .... 3. *I. curvicollum.*

Folia ovato-acuminata lanceolato-acuminatave .... 4. *I. tenerum.*

Folia a basi inæqualiter constricta, subovato-acuminata. 5. *I. leucophyllum.*

Folia media ovato-lanceolata, lateralia ovato-acuminata. 6. *I. tenerifolium.*

Folia media oblongo-ovata, lateralia ovato-acuminata, plus minus complicata .... 7. *I. affusum.*

Folia longe ovato-acuminata, cuspidata, læviter plicata.
8. *I. Chrismari.*

1. I. PLANISSIMUM (*Mitt.*). Depressum, cæspitosum, inordinate ramosum. Folia compressa, rigida, nitida, longitudinaliter subundulata, superiora anguste lanceolata, acuta, lateraliaque ovato-lanceolata, acuminata, breviter binervata, marginibus anguste recurvis, superne subserrulatis, cellulis angustis.

Hab. Ins. Jamaica, *Wilson*, 675. Andes Quitenses, in ripis fl. Bombonasa (1300 ped.), *Spruce*, n. 1061.

Rami 1–1½-unciales, cum foliis lineam lati. Folia viridia, cellularum limitibus quasi prominulis, quamvis flexura folii haud cernendis.

Habitu *I. depresso* Europæ et *I. deplanato* Schimp. Americæ sept. simile.

2. I. BRACHYNEURON (*C. Müll. Syn.* ii. 278, Hypnum). Monoicum, procumbens ramosum. Folia compressa, patentia, caulina ovata acuminata, ramea subimbricata ovato-lanceolata, acuminata, concava, marginibus subplanis integerrimis, nervis fere obsoletis, cellulis elongatis angustis, ad angulos subquadratis pallidis flavidisve; perichætialia erecta, e basi ovali convoluta subulata, brevinervata. Theca in pedunculo gracili nutans, ovalis, operculo breviter curvirostro, peristomii interni ciliis solitariis brevioribus.

Hab. Brasilia, Sierra dos Orgaos, *Gardner*, n. 107; Rio in horto botanico in Palmi caudice, *Milne*; ins. S. Catharinæ, *Pabst.*

I. tenero paululo majus, foliis magis imbricatis, haud distichaceo-explanatis. Pedunculus 4-linearis.

3. I. CURVICOLLUM (*C. Müll. Syn.* ii. 684, Hypnum). Monoicum, gracillimum, deplanatum, depressum, pusillum, tenellum, lutescens, brevissime ramosum, intricatum. Folia caulina laxe conferta, madore planissima, perangusta, lanceolato-acuminata, caviuscula et regulari-stricta, subcomplicate concava et asymmetrica, oblique acuminata, enervia, subintegerrima, margine haud vel vix revoluto, cellulis elongatis angustissimis pallidis, nunquam basi flavidis, alaribus paucissimis quadratis laxiusculis pellucidis; perichætialia intima e basi latiore concava vaginata longissime lanceolato-subulata, subdenticulata, enervia, subhyalina vel basi flavida et laxius reticulata, tenera, intimum interdum apice irregulariter emarginatum et obtusatum. Theca in pedunculo longiusculo rutilante brevi gracillimo apice in collum curvatum incrassato horizontalis, interdum pendula, minutissime obovata, deoperculata ore maxime coarctata, olivacea, dein fusca, operculo cupulato oblique rostellato aurantiaco tenero, annulo nullo; peristomium breve *Hypni gracillimi.*—*C. Müll. l. c.*

Hab. Brasilia, ins. S. Catharinæ ad truncos arborum vetustos, in sylvis montosis prope Destero, *Pabst.*

Ab *Hypno brachyneuro* foliis basi nunquam flavidis jam differt.—*C. Müll. l. c.*

4. I. TENERUM (*Sw. Fl. Ind. Occ.* iii. 1817, Hypnum). Monoicum, humillimum. Folia distiche compressa, nitida, ovata acuminata vel lanceolata acuminata, parum concava, marginibus integerrimis vel indistincte remoteque serrulatis, nervis obsoletis, cellulis elongatis angustis; perichætialia erecto-patentia, e basi suboblonga latiore longe anguste subulata, acuminibus subserrulatis breviter nervatis. Theca in pedunculo gracili inclinata nutansve, ovalis, æqualis, operculo conico oblique breviter rostrato, peristomii interni ciliis singulis brevibus.

Leskea pygmæa, *Tayl.*

Hab. Ins. Jamaica, *Swartz, Heward, Wilds, Wilson,* n. 180, 828; Porto Rico, *Bertero*; Trinidad, *Black*; Cuba, *Wright*, n. 107, Guadelupe, Nova Granata, ad fl. Magdalena in sylvis (600 ped.), *Weir*; Guiana, *Parker*. Fl. Amazon, Rio Caipurú, *Spruce*, n. 1069; fl. Negro, riv. Cauapuna, *Spruce*, n. 1067, 1068, in declivibus graminosis prope Guia, n. 1062, ad Panuré ad fl. Uaupes, n. 1070, ad saxa inundata, n. 1073, in arborum radicibus inundatis prope montem Cocui, n. 1074, Manaos, n. 1075. Andes Quitenses, fl. Bombonasa (1300 ped.), *Spruce*, n. 1064. Andes Peruvianæ, Tarapoto in lignis (1500–2000 ped.), *Spruce*, n. 1063, 1077, in monte Guayrapurina (2500 ped.), *Spruce*, n. 1066, ad cataractam fl. Huallaga (1300 ped.), *Spruce*, n. 1071, in monte Campana (4000 ped.), *Spruce*, n. 1076; riv. Shillicaio (1500 ped.), n. 1078, et (1800 ped.) n. 1083.

Rami decumbentes, ramosi, 3–4-lineares. Folia pallide viridia, straminea, siccitate parum mutata. Pedunculus 3-linearis.

5. I. LEUCOPHYLLUM (*Hampe*; *C. Müll. Syn.* ii. 280, Hypnum). Monoicum, *H. albescenti* simillimum, minus nitidum et magis distichum. Folia caulina e basi brevissima inæqualiter constricta, subovato-acuminata, subdenticulata, planiuscula, cellulis longioribus. Theca in pedunculo brevi, madefacta medio constricta, operculo conico brevi obliquo; peristomio *H. albescentis.*—*C. Müll. l. c.*

Hab. Chili, ad arbores.

6. I. TENERIFOLIUM (*Mitt.*). Monoicum; caulis pallide viridis, elongatus, ramosus. Folia compressa, media ovato-lanceolata, lateralia patenti-divergentia, ovata, acuminata, perichætialia patula, ovata, apice dentata, acumine elongato angusto integerrimo, nervo brevi. Theca in pedunculo elongato nutans, ovalis, subæqualis, operculo conico-acuminato, peristomii interni ciliis duobus in unum coalitis, inter processus carinatos impositis brevibusque.

Hab. Fl. Amazon, in ripis præruptis secus Obidos, *Spruce*, n. 1060.

7. I. AFFUSUM (*Mitt.*). Caulis elongatus, pallidus, inordinatim sub-

pinnatim ramosus. Folia compressa, media oblongo-ovata, lateralia plus minus complicata, patenti-divergentia, ovata, acuminata, marginibus apice minute serrulatis subintegerrimis, nervis fere obsoletis, cellulis angustis elongatis.

Hab. Fl. Negro, ad rupes cataractæ riv. Tarumá irroratas, inter *Selaginellas, Spruce,* n. 1059; Brasilia, Sierra de Araripe, prov. Ceara, *Gardner,* n. 106 *c.*

Rami flaccidi, 3-unciales, ramulis sub-½-uncialibus. Folia pallida, læte viridia, deinde pallide fusca, e substantia tenera, nitida, omnia asymmetrica.

8. I. Chrismari (*C. Müll. Syn.* ii. 682, Hypnum). Monoicum, tenerrimum, flaccidissimum, late prostratum, intertextum, pallide virens, ramis longissimis flexuosis flaccidissimis nitidulis laxifoliis perangustis, sæpius breviter divisis. Folia caulina laxe distichacea, siccitate et madore patula, symmetrica, longe ovato-acuminata cuspidata, flaccidissima, leviter plicata, integerrima, caviuscula, e cellulis elongatis angustis pellucidis laxiusculis basi vix quadratis reticulata, parum flexuosa, obsolete binervia, ramulina enervia; perichætialia basi magis vaginantia, paulisper laxius reticulata, haud plicata. Theca in pedunculo longissimo flaccidissimo gracillimo rubente lævi inclinata, magna, oblonga, timmioidea, vix arcuata, olivacea erythrodontia, dein fusca, robusta; peristomii dentes exteriores robusti, lati, longi, rufi, intus parum cristati, interni lati aurantiaci læves imperforati, ciliis binis cohærentibus pallentibus interjectis.—*C. Müll. l. c.*

Hab. Mexico, prov. Mechoacan, Cerro San Andres, *v. Chrismar.*

93. Leucomium, Mitt. in Journ. Linn. Soc. 1868.

Musci parvi, debiles. Folia pallida parce chlorophyllosa demum albescentia. *Habitatio* ad ligna foliaque putrida.

Folia serrulata.............................. 1. *L. flexuosum.*
Folia integerrima.
  Flores dioici.
    Folia longiuscule anguste lanceolata, oblique tenuiter acuminata. 2. *L. cuspidatifolium.*
    Folia lanceolata, longissime piliformi-acuminata. 3. *L. crinitifolium.*
    Folia ovato-lanceolata, pilifera .... 4. *L. acrophyllum.*
    Folia superiora ovata acuminata, inferiora lanceolata acuta. 5. *L. contractile.*
  Flores monoici synoicive.
    Folia superiora media late ovata, breviter acuminata, lateralia ovalia acuminata, inferiora lanceolata acuminata .. 6. *L. strumosum.*

Folia superiora media rotundato-ovata acumine brevi, lateralia ovata acuminata, inferiora minora lanceolata acuminata.
7. *L. compressum.*

Folia omnia lanceolata, longe tenuiter angustata.
8. *L. attenuatum.*

Folia superiora ovata, subulato-acuminata, inferiora lanceolata.
9. *L. lignicola.*

1. L. FLEXUOSUM (*Sulliv. in Proceed. Amer. Acad.* 1861, Hypnum). Dioicum. Folia compressa, lateralia patula subsecunda, superiora lanceolata subulata, apice flexuosa, margine denticulata, cellulis laxis ellipticis pellucidis, inferiora minora conformia; perichætialia secunda. Theca in pedunculo elongato horizontalis, oblonga, collo crasso, peristomii dentibus crassis, interni processibus carinatis, ciliis brevioribus interpositis, in membrana usque ad $\frac{1}{4}$ dentium longitudinis exserta insidentibus.

Hab. Ins. Cuba, *Wright*, n. 112, 113.

Caules depressi, cum foliis lineam lati. Folia pallide viridia, subnitida. Pedunculus 10-linearis.

Species foliis apice flexuosis denticulatis distincta.

2. L. CUSPIDATIFOLIUM (*C. Müll. Syn.* ii. 237, Hypnum). Late cæspitosum, repens, irregulariter ramosum appressum, pallide viride, foliis angustis subcontortis sursum inflectentibus subhomomalle anguste complanatum et subcrinitum, madefactum planum. Folia caulina dense imbricata, cellula solitaria elongata acuta terminata, caviuscula, enervia, cellulis paucis elongatis laxiusculis albidis, utriculo primordiali tenuissimo substriatulis, integerrima; perichætialia e basi late vaginante longissime acuminata. Theca in pedunculo tenuissimo longiusculo glabro inclinata v. nutans, minutissime ovalis, ore constricta, operculo turgide conico, longe oblique rostellato, calyptra minuta straminea glabra; peristomii dentes exteriores linea diaphana exarati, anguste subulati, dense trabeculati, interni longiores, flavidi, articulati, angusti, imperforati, ciliis nullis.—*C. Müll. l. c.*

Hab. Surinam, prope Paramáribo, in truncis putridis sylvarum, *Kegel.*

3. L. CRINITIFOLIUM (*C. Müll. Syn.* ii. 237, Hypnum). Rami irregulares, breves et elongati, glauco-virides, foliis longissimis angustissimis contortis piliferis ubique criniti. Folia caulina plerumque homomalla, longissime laxe pellucide reticulata, cellularum parietibus chlorophyllosis, mollia, enervia, sicca et madefacta maxime contorta flexuosa, integerrima; perichætialia simillima. Theca in pedunculo longiusculo glabro tenerrimo, minutissime ovalis, nutans; calyptra glabra.—*C. Müll. l. c.*

Hab. Chili, *Pœppig.*

4. L. ACROPHYLLUM (*Hampe in Ann. Sc. Nat.* ser. 5. iv. 325, Hypnum).

Minus, ligno adnatum, compressum, prorepens, parce ramosum, pallide viride, parum nitens; ramis brevibus, subcomplanatis. Folia subdistiche imbricata, planiuscula, varie flexa; cellulis laxissimis, elongato-pentagonis, interstitiis pallidis, tota folia limpido-hyalina; perichætialia patula, subconformia. Seta lutescens, adscendens, vix uncialis, glabra, apice parum strumulosa. Theca rubra, foveolato-punctata, oblongo-ovata, inclinata, deoperculata sub ore coarctata, elliptico-cylindrica, operculo sanguineo umbonato subulato-aciculari tandem recurvo; calyptra glabra flavescens; peristomii dentibus externis lanceolato-subulatis rubris, linea media diaphana, internis cruribus flavescentibus carinatis productis, ciliis anastomosantibus.—*Hampe, l. c.*

Hab. Andes Bogotenses, Pacho (2000 metr.), in sylvis ligno adnatum, *Lindig.*

5. L. CONTRACTILE (*Mitt.*). Dioicum? Folia compressa, superiora lateraliaque patentia, inferiora angustiora, cellulis laxis pellucidis; perichætialia erecta lanceolata. Theca in pedunculo elongato; calyptra nuda.

Hab. Brasilia, Sierra dos Orgaos, *Gardner*; in sylva inter S. Paulo et Jundiahy (2000 ped.), ad arbores putrescentes, *Weir*, n. 46.

Rami unciales, cum foliis 2 lineas lati. Folia pallide viridia, siccitate valde contracta.

6. L. STRUMOSUM (*Hornsch. in Mart. Fl. Bras. Musc.* 69, Hookeria). Caulis prostratus, laxe pinnatim ramosus. Folia compressa, superiora lateralia patentia, inferiora angustiora, omnia enervia, integerrima, laxe areolata; perichætialia brevia, ovata, subulata. Pedunculus elongatus. Theca oblonga, horizontalis, basi strumosa, peristomii dentibus lamina externa medio fissa inde linea pellucidiore notatis, interni processibus carinatis, ciliis rudimentariis interpositis, in membrana usque ad $\frac{1}{3}$ dentium longitudinis exserta insidentibus.

Hab. Fl. Negro, S. Gabriel, in saxis rivulorum, *Spruce.* Brasilia, Sierra dos Orgaos, *Beyrich, Merkel*; Tijuca, *Olfers.*

Caulis 2-uncialis, ramis $\frac{1}{2}$-uncialibus longioribusve, latitudine cum foliis 2-linearis. Folia viridia. Pedunculus 9 lineas longus.

7. L. COMPRESSUM (*Mitt.*). Folia compressa, enervia, cellulis laxis late ellipticis pellucidis; perichætialia patentia, lanceolata, acuminata. Theca in pedunculo rubro, ovalis, horizontalis pendulave, basi strumosa, operculo subulato longirostro, peristomii dentibus crassiusculis intus extusque trabeculatis, interni processibus carinatis, in membrana brevi exserta impositis; calyptra pilis paucis obsita.

Hab. Ins. Trinidad, *Black.* Fl. Negro, S. Gabriel ad truncos emortuos, *Spruce*, n. 803 *b*; S. Carlos, *Spruce*, n. 803 *d*; ad basin montis Cocui, *Spruce*, n. 803 *g*. Andes Peruvianæ, ad fl. Huallaga, in truncis, *Spruce*, n. 803 *f*.

Rami elongati, ramosi, cum foliis lineam lati. Folia viridia. Pedunculus gracilis, ½-uncialis.

8. L. ATTENUATUM (*Mitt.*). Folia compressa, lateralia patentia, integerrima, cellulis laxis pellucidis; perichætialia patentia, lanceolato-subulata. Theca in pedunculo breviusculo, ovalis, horizontalis, collo brevi·
Hab. Ins. Sti. Vincentis, *Guilding in Herb. Hooker.*
Rami unciam longi, cum foliis 1½ lineam lati.

9. L. LIGNICOLA (*Spruce*). Folia sursum secunda, recurva, superiora margine uno latere inflexa, inferiora angustiora, cellulis laxis elongatis; perichætialia ovata, subulata. Theca in pedunculo aurantiaco, oblonga, horizontalis, collo strumosa, operculo subulato longirostro, peristomii dentibus lamina externa medio fissa crassis scabris, interni processibus carinatis luteis, in membrana ad ¼ usque dentium longitudinis exserta impositis; calyptra pilis raris inspersa.
Hab. Fl. Amazon, Pará, Tauaú; Rio Caipurú, *Spruce*, n. 803 *c*. Andes Peruvianæ, in monte Guayrapurina (2500 ped.), *Spruce*, n. 803 *k*. Brasilia, Rio de Janeiro, *Douglas.*

94. MICROTHAMNIUM, Mitt.

Musci humiles, graciles. Folia nitida, nervo interdum in inferioribus singulo, superiora autem binervia.

Caules in cæspitem depressum abbreviati.
  Folia caulina superne serrulata.
    Folia ovata, subulato-acuminata .... 1. *M. thelistegum.*
    Folia ovato-lanceolata, acuminata .... 2. *M. substriatum.*
    Folia cordata, acuminata, pluries plicata, nervis brevibus. 3. *M. elegantulum.*
    Folia cordato-ovata, superiora acuminata, enervia. 4. *M. oxypoma.*
    Folia ovata, subulato-acuminata, nervis brevibus. 5. *M. oxystegum.*
  Folia caulina integerrima .... 6. *M. breviusculum.*
Caules inferne stipiformes, superne arbusculosi.
  Flores monoici.
    Folia caulina lanceolata acuta .... 7. *M. andicola.*
    Folia caulina cordata acuminata .... 8. *M. reptans.*
    Folia caulina subcordata, breviter acuminata. 9. *M. Sellowii.*
    Folia caulina e basi lata sensim angustata, sublanceolata. 10. *M. Langsdorffii.*
    Folia caulina subtriangulari-acuminata ...... 11. *M. macrodontium.*
    Folia caulina anguste ovato-lanceolata ...... 12. *M. viscidulum.*

Flores dioici.

Folia e basi late cordata subulato-acuminata vel ovata acuminata. 13. *M. Jamesoni.*

Folia e basi subcordato-ovata, in acumen latiusculum producta. 14. *M. loriforme.*

1. M. THELISTEGUM (*C. Müll. Syn.* ii. 269, Hypnum). Folia compressa, patula divaricataque, ramea ovato-lanceolata, acuminata, nervis brevibus, cellulis elongatis dorso papillis prominentibus; perichætialia erecta, lanceolata, tenuiacuminata. Theca in pedunculo rubro, breviter ovata, nutans, operculo brevi conico, peristomii dentibus luteis intus trabeculatis, processibus ciliisque æquilongis.

Hypnum perspicuum, *Hampe in Linnæa*, xxxi. 529.

Hab. Ins. Cuba, *Wright*; Jamaica et Trinidad, *Heward*; Venezuela, *Funck et Schlim*; Nova Granata, ad fl. Magdalena prope Barranco Vermejo (500 ped.), in sylvis humidis ad ligna putrida, *Weir*, n. 387; fl. Amazonum, Caripi, prope Pará ad terram, *Spruce*, n. 1095; fl. Negro, San Carlos, *Spruce*, n. 1089; Cerro Canopuna (1200 ped.), *Spruce*, n. 1086; fl. Huallaga, ad pagum Yurimaguas, *Spruce*, n. 1093. Andes Quitenses, *Jameson*; fl. Bombonasa (1500 ped.), *Spruce*, n. 1087; in monte Tunguragua (7000 ped.), *Spruce*, n. 1094. Andes Peruvianæ, Tarapoto, locis dumetosis vulgare (1500–2500 ped.), *Spruce*, n. 1088; ibidem ad riv. Aguashiyacu (2000 ped.), *Spruce*, n. 1090; in monte Campana (4000 ped.), *Spruce*, n. 1091; ad riv. Shillicaio (1800 ped.), *Spruce*, n. 1092.

Rami depressi, repentes, ramulis pluribus assurgentibus 2–3 lineas longis. Folia viridia lutescentia pallide fuscataque, sæpius obscuriuscula. Pedunculus 6–9 lineas longus. Theca parva.

2. M. SUBSTRIATUM (*Mitt.*). Folia caulina patentia, plicis paucis angustis substriata, superne parce papillosa, ramea elliptico-lanceolata, serrulata, dorso lævia, nervis brevibus, cellulis elongatis angustis; perichætialia e basi oblonga longe subulata, subintegerrima. Theca in pedunculo elongato, ovalis, æqualis, horizontalis erectave, collo sensim attenuato, operculo brevirostro, peristomii interni processibus luteis dentium longitudine, in membrana ad tertiam partem dentium longitudinis exserta impositis, ciliis nullis.

Hypnum disparifolium, *Tayl.*?

Hab. Andes Bogotenses, in sylvis supra Pacho ad arbores (7000 ped.), *Weir*, n. 460. Andes Quitenses, Quito, *Jameson*; in monte Tunguragua et Baños, *Spruce*; Brasilia, prov. Minas Geraës, *Gardner*, n. 120; Corritiba ad truncos ramosque arborum, in sylvis (2000 ped.) *Weir*, n. 80.

Rami 1½-unciales, arbusculosi, arcuati, proliferi, ramulis ½ unciam longis. Folia straminea, nitida. Pedunculus uncialis.

3. M. ELEGANTULUM (*Hook. Musc. Exot.* t. 84, Hypnum). Caulis re-

pens, pinnatim ramosus. Folia compressa, patenti-divergentia, concava, ramea ovata acuminata, marginibus minute serrulatis, cellulis omnibus parvis elongatis dorso papillatis; perichætialia ovata, sensim longe subulata, patentia, paraphyses elongatas includentia. Theca in pedunculo rubro horizontalis, ovali-cylindracea, operculo conico brevirostrato, peristomii interni ciliis duobus inter processus æquilongis; calyptra parce pilosa.

Hab. Mexico, *Leiboldt*; Venezuela in valle di Aragua, *Humboldt et Bonpland.* Fl. Amazon, *Sellow.* Brasilia tropica, *Burchell,* n. 1184, *Gardner,* n. 115, 127. Ins. Stæ. Catharinæ, *Pabst*; Rio de Janeiro, *Milne, M'Gillivray.* Prope Constitutao ad arborum truncos et ligna putrida in sylvis (2000 ped.), *Weir,* n. 35. Inter S. Paulo et Jundiahy ad lapides et arborum truncos (2000 ped.), *Weir,* n. 94.

Caules depressi. Folia viridia, nitentia, lutescentia, et sicca et humida plicata. Thecæ forma varians nunc gracilis, nunc abbreviata latiorque.

C. Müller refers to this species two others before described by himself as distinct—*Hypnum filidens,* 'Bot. Zeit.' 1844, p. 742, and *H. erythrodontium, l. c.*; it is not, however, improbable that another allied species exists, as he describes the inflorescence of *H. elegantulum* as dioicous.

4. M. OXYPOMA (*Schwægr.* t. 259, Hypnum). Caulis repens, vage ramosus, ramis in ramulos breves pinnatim divisis, lutescentibus squarrulose foliosis. Folia sparsa, densiuscule conferta, patula, parvula, concava, valde pellucida, pallide viridia, e cellulis oblongis superne angustioribus areolata; perichætialia squarrulosa, in acumen longiusculum producta. Theca in pedunculo mediocri lævi apice parum arcuato horizontalis, oblonga, junior teres parum inæqualis, luteo-fusca, operculo conico recte acuto concolori; peristomii dentes exteriores ferruginei, interiores flavi solidi, ciliis singulis longis articulatis pallidioribus.—*C. Müll. Syn.* ii. 453.

Hab. Brasilia, *Pohl.*

An ab *M. elegantulo* diversum?

5. M. OXYSTEGUM (*Spruce*). Folia compressa, patentia divergentiaque, ramea late ovata, acuta, concava, serrulata, cellulis elongatis dorso papilliferis; perichætialia a basi parva latiore longe subulata, flexuosa, laxe erecta. Theca in pedunculo rubro, ovalis, horizontalis, inæqualis, collo sensim attenuato, operculo conico acuto, peristomii dentibus luteis intus trabeculatis, interni processibus angustis carinatis æquilongis, in membrana fere usque ad dentium longitudinis medium exserta impositis.

Hab. Andes Peruvianæ, Tarapoto ad rivulum Shillicaio (1800 ped.), *Spruce,* n. 1082, 1083; ad rivulum Aquashiyacu prope Tarapoto (2000 ped.), *Spruce,* n. 1085; in monte Campana (4000 ped.), *Spruce,* n. 1091; ad rivulum Shillicaio (1800 ped.), *Spruce,* n. 1092.

Rami depressi, intricati, ramulis 4–6-linearibus ramosi. Folia viridilutescentia, subnitentia. Pedunculus 6-linearis. Theca parva.

6. M. BREVIUSCULUM (*Mitt.*). Folia subcompressa patentia, caulina cordata, acuminata, ramea late ovata, acuminata, apicibus serrulatis, nervis brevibus, cellulis elongatis dorso parce papilliferis fere lævibus; perichætialia erectiuscula, e basi oblonga acuminata, parce serrulata. Theca in pedunculo elongato horizontalis, ovalis, inæqualis, operculo convexo obtuso, peristomii dentibus flavis erosis, processibus æquilongis, ciliis duobus brevioribus, in membrana ad tertiam dentium longitudinis producta impositis.

Hab. Andes Quitenses, Baños (6000 ped.), *Spruce*, n. 1055.

M. oxystego simile sed minus, foliis lævioribus minus serrulatis, operculo obtuso; a *M. thelistego* foliis latioribus brevius acuminatis fere lævibus differt.

7. M. ANDICOLA (*Hook. Musc. Exot.* t. 83, Hypnum). Folia subcompressa, patentia, plicis parvis striata, nervis brevibus, marginibus subserrulatis, ramea anguste ovato-lanceolata, serrulata, dorso evidentius papillata, cellulis elongatis angustis; perichætialia erecta, imbricata, e basi oblonga, apice dentata, subito angustata, longe subulato-attenuata, subdenticulata. Theca in pedunculo elongato, ovalis, erecta, æqualis, horizontalis nutansve et inæqualis, operculo brevirostrato, peristomii interni ciliis tribus quam processus brevioribus, in membrana ad dentium longitudinis $\frac{1}{3}$ exserta impositis.

Hypnum volvatum, *Hampe in Linn.* xxxi. 529.

Hab. Nova Granata, Paramo de Ruiz, *Purdie.* Andes Bogotenses, in sylvis supra Pacho (6500 ped.), *Weir*, n. 279, 380. Andes Quitenses, *Humboldt et Bonpland*, in monte Cayambe, *Spruce.*

The figure in the 'Musci Exotici' is not good.

8. M. REPTANS (*Sw. Fl. Ind. Occ.* 1819; *Hedw. Sp. Musc.* t. 68, Hypnum). Folia caulina parva, remota, divergentia, subdeltoidea, breviter nervata, inferiora enervia, ramea compressa, ovato-lanceolata, serrulata, dorso papillis sparsis aspera, cellulis elongatis; perichætialia e basi brevi subquadrata, apice denticulata integerrimave, longe subulato-attenuata. Theca in pedunculo elongato horizontalis pendulave, ovalis, inæqualis, operculo brevirostrato, peristomii interni ciliis duobus quam processus brevioribus.

Hypnum pallidum, *Hook. in Kunth. Syn. Fl. Æq.* i. 63.

Leskea pallida, *Schwægr.* t. 291.

Hab. Ins. Jamaica, *Swartz, Heward, Wilson, Wilds*; Cuba, *Wright*, n. 119; Venezuela, *Moritz, Karsten.* Andes Quitenses, *Humboldt et Bonpland, Jameson*; in monte Guayrapata (9000 ped.), *Spruce*, n. 1115; ad pagum Baños (6000 ped.), *Spruce*, n. 1116, ad fl. Bombonasa (1500 ped.), n. 1117, in monte Tunguragua (7000–8000 ped.), n. 1118.

9. M. **Sellowii** (*Hornsch. in Mart. Fl. Bras. Musc.* 66, Hookeria). Caulis declinatus, inferne simplex, superne subfastigiatim ramosus, ramis brevibus complanatis pinnatis. Folia caulina remota, conspersa, patentia v. subsquarrosa, serrulata, caviuscula, binervia, ramea disticha ovato-lanceolata acuta argute serrata, nervis infra medium dissolutis, omnia pallide viridia, e cellulis linearibus laxiusculis areolata; perichætialia ovato-lanceolata, acuminata, intima in acumen subulatum flexuosum producta, hyalina, laxius reticulata. Theca in pedunculo purpureo tortili lævi longiusculo apice curvato horizontalis, oblonga, æqualis, badia; peristomii dentes interiores perforati, lanceolato-subulati, lutescentes, ciliis binis hyalinis subulatis articulatis interjectis.—*C. Müll. Syn.* ii. 242 (Hypnum argute-serratum).

Hab. Brasilia, *Sellow.*

10. M. **Langsdorffii** (*Hook. in Kunth. Syn. Pl. Æq.* i. 62, Hypnum). Folia caulina inter se remota, patenti-divergentia, serrulata, ramea compressa, ovato-lanceolata, argutius serrulata, dorso parce papillata, cellulis elongatis, nervis brevibus; perichætialia e basi ovata subulata, longe attenuata. Theca in pedunculo elongato horizontalis pendulave, turbinata, inæqualis, operculo acuminato brevirostro, peristomii interni ciliis quam processus brevioribus noduloso-articulatis punctulatis.

Hab. Fl. Orinoco, Maypures, *Swainson.* Nova Granata, *Weir*, n. 421. Andes Quitenses, Quito, *Jameson*; ad cataractas Agoyan (5500 ped.), *Spruce*, n. 1119. Brasilia, *Gardener*, n. 118; Parana, Fazenda de Tucanduva in sylvis ad truncos (2000 ped.), *Weir*, n. 84; Sierra do Moretes ad arborum truncos (2000 ped.), *Weir*, n. 111.

Statura *M. reptantis.* Folia viridia, caulina haud acuminata.

11. M. **macrodontium** (*Hornsch. in Mart. Fl. Bras. Musc.* 82, Hypnum). Caulis arcuato-declinatus, radicans, pinnatus, ramis erectis fasciculato-ramulosis rigidis recurvis. Folia caulina remota, erecto-patentia, caviuscula, ramea laxiuscula, planiuscula, pallide viridia, cellulis linearibus confertis; perichætialia e basi latissima concava in acumen longissime subulatum recurvatum attenuata, enervia, subintegerrima, amœne viridia, basi laxius reticulata. Theca in pedunculo unciali erecto flexuoso tortili gracili lævi purpurascente superne ferrugineo nutans, ovata, obliqua, brunnea, exannulata; peristomii dentes exteriores longi, late lanceolato-subulati, intus cristati, postice ferruginei, antice hyalini, punctati, interni in membrana lutea lanceolato-subulati, solidi, ciliis ternis brevioribus hyalinis teneris interjectis.—*C. Müll. Syn.* ii. 276.

Hab. Brasilia, in districtu adamantum, prope Villam Ricam et Salgado ad fl. S. Francisci, *Martius*; prope Tijuca in vicinia Rio Janeiro, *Olfers.*

12. M. **viscidulum** (*Hampe in Ann. Sc. Nat.* ser. 5. v. 319, Hypnum). Folia caulina patentia, subcompressa, medio tenus binervata, margine superne serrulata, ramea angustiora, magis elliptico-lanceolata, concaviora,

dorso superne limitibus cellularum in denticulos prominentibus, cellulis elongatis angustis; perichætialia longe subulata, recurva, subintegerrima. Theca in pedunculo elongato viscidulo subhorizontalis, oblonga, inæqualis, operculo conico rostrato, peristomii dentibus subulatis anguste attenuatis intus valde trabeculatis, interni processibus latis ciliisque tribus brevioribus interpositis minute punctulatis, in membrana usque ad $\frac{1}{3}$ dentium longitudinis exserta insidentibus.

Hab. Andes Bogotenses, Montana de Sogamoza (5000 ped.), ad arborum truncos, *Weir,* n. 163; Pacho (2000 metr.), *Lindig.*

Habitu *M. andicolæ* simile.

13. **M. Jamesoni** (*Tayl. in Hook. Lond. Journ.* v. 63, Hypnum). Caulis paraphyllis paucis remotis obtectus. Folia patentia, pluries plicata, angulis anguste decurrentibus, nervis brevibus, marginibus inferne recurvis serrulatis, ramea late ovata, apicibus incurvis, concava, indistincte quater plicata, marginibus inferne planis, dorso sub apice parce papilloso-dentata, breviter binervata, serrulata, cellulis elongatis; perichætialia e basi brevi ovata erecta longe tenuisubulata, recurva, subdenticulata. Theca in pedunculo longissimo, ovalis, inæqualis, pendula, operculo brevirostro, peristomii interni processibus dentium longitudine, ciliis tribus articulationibus nodulosis pallidis brevioribus.

Hab. Andes Quitenses, Quito, *Jameson,* in monte Guayrapata, in terra truncisque (9000 ped.), *Spruce,* n. 1114; Antombos, *Spruce,* n. 1114 *b,* in monte Abitagua, *Spruce,* n. 1114 *c;* in monte Pichincha, *Spruce.*

Caules 2–4 uncias alti, bipinnatim ramosi, ramulis undique insertis dense arbusculosi. Pedunculus gracilis, 2-uncialis.

14. **M. loriforme** (*Hampe in Linnæa,* xxxii. 160, Hypnum). Caulis erectus, arcuatus, apice producto descendens, radicans, pinnatim ramosus. Folia patentia, plicis parvis pluribus striata, nervis brevibus inconspicuis, margine apicem versus serrulata, ramea margine magis serrulata, omnia cellulis angustis elongatis areolata; "perichætialia a basi ovata loriformi acuminata, enervia. Seta elongata. Theca oblongo-elliptica, nutans, deoperculata, sub ore contracta, operculo brevi conico acuminato, peristomii interni ciliis binis brevibus inter processus impositis."—*Hampe, l. c.*

Hab. Andes Bogotenses, in sylvis Manzanos ad truncos (2500 ped.), *Lindig;* in sylvis supra Pacho ad arbores (6000 ped.), *Weir,* n. 190.

Caulis 3–4 uncias longus. Folia lineam longa, viridia, fulvescentia, subnitida. Pedunculus $1\frac{1}{2}$-uncialis.

95. Heterocladium, Schimp. Bryol. Europ.

H. **dimorphum** (*Brid.* ii. 581, Hypnum). Folia caulina late cordata, acumine subulato elongato recurvo squarroso, angulis anguste decurrentibus, marginibus serrulatis, nervis brevibus fere obsoletis, cellulis basi ad margines pluribus rotundatis obscurioribus, reliquis elongatis oblongisve pellucidis lævibus, ramea patula, late cordato-ovata, obtusa, concava, cellulis in folio medio paucis elongatis, ad latera apicesque rotundis, superne scabris; ramulina tereti-imbricata.

Hab. Andes Quitenses, in devexu occidentali, *Jameson.*

96. CTENIDIUM, Schimp. Syn. 631.

Musci foliis parvis teneris firmis. Thecæ breviusculæ, firmæ. *Habitatio* ad terram.

Flores dioici.
  Folia cordata, sensim acuminata, 4-plicata .... 1. *C. aurifolium.*
  Folia e basi late cordato-triangulari indistincte plicata, in subulam elongatam producta .... 2. *C. malacodes.*
  Folia ovato-lanceolata, subcomplicata, falcata .. 3. *C. reduncum.*
Flores monoici.
  Theca ovalis, subæqualis, inclinata .... 4. *C. trichocladum.*
  Theca ovalis, horizontalis, sicca arcuata ...... 5. *C. prægracile.*

1. C. AURIFOLIUM (*Mitt.*). Caulis procumbens, ramis pluribus erectis simplicibus pinnatimque divisis. Folia densa, patula, subsquarrosa, enervia, ad latera basin versus transverse rugulosa, margine serrulata, cellulis angustis elongatis.

Hab. Brasilia tropica, *Burchell,* n. 2275.

Caules 2–3 uncias longi, hic illic radicantes. Rami ½–1-unciales, lineam crassi. Folia aurea splendida, tenera sed firma.

2. C. MALACODES (*Mitt.*). Cæspitosum; rami elongati, pinnatim ramosi. Folia secunda, enervia, marginibus serrulatis, cellulis angustis limitibus prominulis, basi ad angulos pluribus latioribus oblongis; perichætialia erecta, oblonga, apice denticulata, in acumen angustum denticulatum producta. Theca in pedunculo elongato, brevissime ovalis, horizontalis suberectave, operculo conico subacuminato, peristomii interni processibus planis parum pertusis, ciliis nullis.

Hab. Andes Bogotenses, in sylvis supra Pacho ad arbores (6000 ped.), *Weir,* n. 243. Andes Quitenses, Pallatanga (6000 ped.), *Spruce,* n. 1050; ibidem in arboribus vetustis (6000 ped.), *Spruce,* n. 1051; Chimborazo, *Spruce,* n. 1052; Guayrapata (9000 ped.), *Spruce,* n. 1053, forma attenuata. Quito et in monte Picillun, *Jameson.*

Rami 2–3-unciales, ramulis brevibus pluribus. Folia in ramulis secunda, subfalcata, e viridi lutescentia, et iis *C. mollusci* simillima.

3. C. REDUNCUM (*Schimp.*). Caulis gracilis, fasciculatim ramosus. Folia secunda, laxe inserta, brevia, breviter binervia, margine minute serrulata, cellulis angustis lævibus sed veluti punctulatis.

Hab. Andes Peruvianæ, Cordillera ad Sachapata, *Lechler*, n. 3103, 3108.

Rami 2–3-unciales, cum foliis ½ lineam crassi. Folia fusco-viridia, obscura.

4. C. TRICHOCLADUM (*Tayl. in Hook. Lond. Journ.* vi. 336, Pterogonium). Dense cæspitosum, intricatum. Folia subcompressa, subsecunda, patentia, ovata, concava, subulato-acuminata, enervia, margine subserrulata, cellulis elongatis basi ad angulos pluribus abbreviatis obscuris; perichætialia erecta, lanceolato-subulata, subserrulata. Theca in pedunculo gracili, operculo conico rostrato.

Hab. Andes Quitenses, in monte Pichincha, *Jameson*; Pallatanga (6000 ped.), in arboribus vetustis, *Spruce*.

Species pusilla, *Stereodonti polymorpho* similis.

5. C. PRÆGRACILE (*Mitt.*). Caulis procumbens, laxe intricatus, subpinnatus. Folia subcompressa, divergentia, e basi late ovata concava in acumen subulatum elongatum producta, nervis obsoletis, marginibus integerrimis, cellulis inferne oblongis superne angustioribus; perichætialia erecta, elongata, sensim subulato-attenuata, apicibus secundis subserrulatis. Theca in pedunculo elongato rubro, operculo convexo-conico, peristomii interni ciliis singulis.

Hab. Andes Quitenses, in spelunca Siesihuaicu dicta (4000 ped.), *Spruce*, n. 1049.

97. ECTROPOTHECIUM, Mitt. in Journ. Linn. Soc. 1868.

Musci caulibus plumæformibus. Folia nitida, ut plurimum falcato-secunda. Thecæ ore demum hiantes. *Habitatio* ad terram, etiam ad ligna.

Folia cellulis angustis areolata.
  Folia falcato-secunda.
    Flores monoici.
      Folia media elliptico-lanceolata, sensim acuminata. 1. *E. cupressoides.*
      Folia media anguste ovato-lanceolata, parum acuminata. 2. *E. globitheca.*
      Folia media intermediaque oblongo-ovata, breviter subacuminata. 3. *E. campanulatum.*
      Folia oblonga, acuminata, integerrima .... 4. *E. cyparissoides.*
      Folia media e basi sensim angustata, lanceolato-subulata. 5. *E. apiculatum.*
      Folia media anguste ovato-lanceolata, sensim angustata. 6. *E. æruginosum.*
      Folia media e basi sensim angustata, anguste subulato-lanceolata. 7. *E. plumulum.*

Flores dioici.
Folia media e basi cordata lanceolata, sensim subulato-acuminata. 8. *E. amabile.*
Folia media e basi subcordata, sensim angustata, apice latiuscule acuta .... 9. *E. polypterum.*
Folia compressa, haud falcato-secunda, sæpe obliqua, acuminata.
Flores monoici.
Folia media ovata subulato-acuminata .... 10. *E. trinitense.*
Folia e basi latiuscule cordato-ovata, sensim longiuscule acuminata. 11. *E. cubense.*
Folia lanceolata, acuminata .... 12. *E. ometepense.*
Folia anguste lanceolata, acuminata ...... 13. *E. urceolatum.*
Folia lanceolata, acuminata .... 14. *E. brevisetum.*
Folia ovato-acuminata .... 15. *E. gracillimum.*
Folia late ovata, acuminata .... 16. *E. hookeroides.*
Folia ovata, acuminata, acumine longiusculo subobliquo. 17. *E. splendidulum.*
Flores dioici .... 18. *E. cylindricum.*
Folia compressa, obtusa.
Flores monoici .... 19. *E. lævifolium.*
Flores dioici .... 20. *E. truncatulum.*
Folia cellulis amplis areolata.
Flores monoici.
Folia e basi truncata ovato-lanceolata, sensim acuminata. 21. *E. crassicaule.*
Folia lanceolata, sensim acuminata .... 22. *E. flavoviride.*
Folia ovata vel late ovalia, breviter acuminata. 23. *E. vesiculare.*
Folia superiora ovato-acuminata, subserrulata. 24. *E. subdenticulatum.*
Folia superiora ovato-acuminata, obsolete denticulata. 25. *E. conostegum.*
Folia superiora ovato-acuminata, superne breviter serrulata. 26. *E. amphibolum.*
Flores dioici. Folia e basi cordata latiuscule ovata, acuminata. 27. *E. rutilans.*

1. E. CUPRESSOIDES (*C. Müll. Syn.* ii. 303, Hypnum). Prostratum; rami graciles plumæformi-pinnati, pallidi. Folia compressa, media elliptico-lanceolata, sensim acuta, lateralia patentia falcato-secunda, media inferiora lanceolato-subulata, omnia nervis brevibus, marginibus apice serrulatis, cellulis omnibus angustis; perichætialia majora, oblonga, convoluta, subulata, apicibus serrulatis recurvis. Theca in pedunculo rubro nutans, late obovata, ore magno, operculo oblique acuminato, peristomii dentibus pallidis, interni lutei ciliis in unum coalitis.

Hab. Brasilia, in monte Corcovado, ad lapidem, *Gardner*, n. 111.

Rami depressi, intricati, ramulis brevibus. Folia e viridi straminea nitida. Pedunculus $\frac{1}{2}$-uncialis.

2. E. GLOBITHECA (*C. Müll. Syn.* ii. 300, Hypnum). Cæspitosum; rami procumbentes, inordinate plumæformi-pinnati. Folia media anguste ovato-lanceolata, parum acuminata, lateralia patentia, falcata, secunda, basi latiora, superne angustiora, inferiora media ovato-lanceolata acuminata, omnia nervis brevibus obsoletisve, marginibus serrulatis, cellulis angustis ad angulos paucissimis abbreviatis; perichætialia erecta, interna late oblonga, latiuscule subulata, minute serrulata. Theca in pedunculo elongato rubro, breviter ovalis, inæqualis, nutans, operculo convexo brevirostrato, peristomii interni ciliis in unum latiusculum coalitis.

Hab. Ins. Jamaica, *Wilson*, n. 141, 142, 143; Cuba, *Wright*, n. 100. Andes Quitenses, ad pedem montis Tunguragua, *Spruce*, n. 1140. Andes Bogotenses, *Lindig*.

Rami unciales, ramulis irregulariter elongatis. Folia nitida.

Ab *E. apiculato* ramis vix plumæformi-pinnatis, foliis minus angustatis minusque argute serrulatis, et theca inæquali differt.

3. E. CAMPANULATUM (*Mitt.*). Rami procumbentes, pinnatim ramosi, pallidi. Folia media intermediaque oblongo-ovata, breviter subacuminata, concava, marginibus recurvis apice serrulatis, lateralia patentia, secunda, curvata, complicata, inferiora media late lanceolata, subulata, nervis obsoletis, cellulis angustis una ad angulos majore paucissimisque subquadratis; perichætialia erecta, interna ovata subulata, apicibus subserrulatis. Theca in pedunculo elongato, globoso-ovalis, æqualis, operculo convexo acuminato, peristomii interni processibus pertusis ciliis in unum coalitis.

Hab. Nova Granata, prope Guaduas secus viam ad Honda ducentem, in declivitate humida (3000 ped.), *Weir*, n. 191.

Rami laxe cæspitosi 2-unciales, ramulis assurgentibus. Folia nitida, sicca vix mutata, e viridi straminea. Pedunculus uncialis.

4. E. CYPARISSOIDES (*Hornsch. in Mart. Fl. Bras. Musc.* 88, Hypnum). Surculus 1–2-uncialis, rufus, adscendens, aliquoties divisus ramis erectis subpinnatis, ramulis brevibus subsecundis. Folia caulina dense imbricata, secunda, subfalcata, oblonga, acuminata, obliqua, integerrima, enervia, concava, læte virentia, cellulis linearibus confertis; perichætialia intima lanceolata, longissime acuminata, subvaginata, margine inflexa, plicata, exteriora ovata acuta v. oblongo-acuminata concava. Theca in pedunculo unciali erecto subflexuoso lævi purpurascente apice parum incrassato et incurvo nutans v. cernua, obconica, deoperculata, oblonga, lævis, brunnea, ore purpureo, operculo hemisphærico brevirostro; peristomio *E. cupressoidis*.—*C. Müll. l. c.*

Hab. Brasilia, in districtu adamantum, *Martius*.

5. E. APICULATUM (*Hornsch. in Mart. Fl. Bras. Musc.* 87, Hypnum). Plumæformi-pinnatum. Folia media e basi sensim angustata lanceolato-

subulata, a basi ad apicem ubique evidentius serrulata, nervis brevibus, lateralia patentia falcato-secunda latiora, media inferiora e basi ovali subulato-attenuata, recurva, cellulis angustis ad angulos paucis abbreviatis; perichætialia erecta, e basi oblongo-elliptica convoluta, subulata, angusta, argute serrulata. Theca in pedunculo elongato, brevissime ovalis, æqualis, nutans, "operculo hemisphærico apiculato, peristomio interno in membrana solidi ciliis interjectis."

Hab. Ins. Jamaica, *Purdie.* Brasilia, Minas Geraës, *Gardner,* n. 119*b.* Andes Bogotenses, ad viam in descensu a planitie Bogotensi ad Fusagasuga (6000 ped.), *Weir,* n. 237.

Rami unciales. Folia e viridi flavescentia vix nitida. Pedunculus subuncialis.

6. E. ÆRUGINOSUM (*C. Müll. Syn.* ii. 304, Hypnum). Rami procumbentes, ramulis brevibus plumiformi-pinnati. Folia media anguste ovato-lanceolata, sensim acuta, lateralia patentia, falcato-secunda, basi asymmetrica, media inferiora lanceolato-subulata, omnia nervis brevibus pallidis, marginibus superne argute serrulatis, cellulis angustis; perichætialia erecta, e basi ovali convoluta, subulato-attenuata, argute serrulata. Theca in pedunculo rubro, breviter ovalis, æqualis, nutans, operculo convexo acuminato, peristomii dentibus brevibus luteis intus valde trabeculatis, ciliis latiusculis in unum coalitis.

Hab. Venezuela, Caracas (4000 ped.), *Funck et Schlim,* n. 353, 347. Andes Quitenses, ad fl. Bombonasa (1500 ped.), *Spruce,* n. 1124; in sylva Canelos (3000 ped.), *Spruce,* n. 1127. Andes Peruvianæ, in monte Guayrapurina (3000 ped.), *Spruce,* n. 1125. Fl. Casiquiari, *Spruce,* n. 1126.

Rami 1–2-unciales, ramulis 2–3-linearibus. Folia viridia, straminea, nitida. Pedunculus uncialis.

7. E. PLUMULUM (*Mitt.*). Plumæformi-pinnatum. Folia compressa, media e basi sensim angustata anguste subulato-lanceolata, lateralia patentia, secunda, falcata, basi latiora, asymmetrica, uno latere cellulis singulis binisve majoribus pallidis, inferiora lanceolato-subulata, omnia nervis brevibus angustis, marginibus apice remote serrulatis, cellulis angustis; perichætialia erecta, ovata, subulato-acuminata, serrulata. Theca in pedunculo elongato rubro nutans, ovalis, collo brevissimo, operculo acuminato, peristomii interni ciliis in unum coalitis.

Hypnum cupressoides, *Sulliv. in Proceed. Amer. Acad.*

Hab. Ins. Cuba, in sylvis ad arbores dejectas, *Wright,* n. 101.

Rami unciales, ramulis 2-linearibus pluribus pinnati. Folia viridia, lutescentia, nitida. Pedunculus uncialis.

8. E. AMABILE (*Hampe in sched.*). Rami elongati, dense plumæformi-pinnati, flavidi. Folia compressa, media superiora a basi cordata lanceolata sensim subulato-acuminata, concava, lateralia patentia, fere duplo latiora, circinata, inferiora media a basi lata rotundata, plicata, subulata, reflexa,

omnia margine minutissime remote serrulata, nervis brevibus angustis, cellulis angustis, basilaribus ad angulos paucis subimpressis.

Hypnum subimponens, *Hampe in Ann. Sc. Nat.* ser. 5. v. 321.

Hab. Andes Bogotenses, ubique in collibus prope Bogota, sed semper sterilis (9000 ped.), *Weir*, n. 232; in descensu a planitie Bogotensi ad Fusagasuga (6000 ped.), *Weir*, n. 408.

Rami 4-unciales, flavo-rubri. Folia secunda circinata, e viridi straminea, nitida.

Ab *E. polyptero* simillimo foliis haud acuminatis recedit.

9. E. POLYPTERUM (*Mitt.*). Rami elongati, procumbentes, plumæformi-pinnati. Folia compressa, superiora media a basi subcordata sensim angustata, apice latiuscule acuta, lateralia patentia, falcata, latiora, concava, media inferiora latissime orbiculari-ovata, subulato-acuminata, falcata, plicata, omnia nervis angustis brevibus, margine serrulata, cellulis angustis ad angulos in ventrem parum impressum congestis; perichætialia longe loriformi-attenuata, reflexa, serrulata.

Hab. Ins. Jamaica et Guadelupe.

Rami 3–4-unciales, cum foliis lineam lati, ramulis attenuatis. Folia stramineo-viridia, subnitida.

Habitus, color staturaque *E. buitenzorgi* Asiæ orientalis, folia autem haud acuminata.

10. E. TRINITENSE (*C. Müll. Syn.* ii. 284, Hypnum). Rami prostrati, pinnatim ramosi, flavi. Folia arcte compressa, media ovata subulato-acuminata, lateralia patentia asymmetrica, acumine curvato, inferiora omnia dimidio minora, media intermediaque cordato-subulata, omnia marginibus superne serrulatis, nervis brevibus, cellulis angustis breviusculis, ad angulos præcipue uno latere paucis subquadratis; perichætialia strictissima, longiuscule acuminata, denticulata. Theca in pedunculo elongato gracillimo, minute obovata, horizontalis, operculo conico longiusculo tenuissime oblique subulato, peristomii dentibus ferrugineis, interni flavi ciliis binis trinisve subconflatis albis subrugulosis.

Hab. Ins. Trinidad, in monte Tochucha, *Crüger* ex *Herb. C. Müller.*

Rami late cæspitosi, intricati, ramulis 2–3-linearibus. Folia nitida, sicca parum mutata.

Ab *E. subsimplici* longe diversum.

11. E. CUBENSE (*C. Müll. Syn.* ii. 267, Hypnum). Folia caulina e basi latiuscule cordata ovata sensim longiuscule acuminata, strictiuscula, basi concava, margine erecto ubique tenuiter subdenticulato, nervis distinctis breviusculis, cellulis sparse tenuiter papillosis, ubique pallidis, alaribus vix ullis quam maxime minutis quadratis; perichætialia angustissime vaginantia, longe filiformi-acuminata, subintegerrima, lævia. Theca in pedunculo elongato tenerrimo purpureo lævi horizontalis, minutissime cylindraceo-oblonga, macrostoma, brevicolla, sicca nutans, angustissime obovata, ore maxime constricta, rufa, operculo conico acuto brevi recto;

annulo distincto; peristomii minuti dentes exteriores flavidi, linea media tenuissima exarati, interiores lutescentes, æquilongi, ciliis singulis brevioribus basi cellulosis albidis.—*C. Müll. l. c.*

Hab. Ins. Cuba, in truncis vetustis sylvarum, *Pœppig, Doring.*

E. pseudamœno simile.—*C. Müll. l. c.*

12. E. OMETEPENSE (*Sulliv. et Lesq.*). Laxe cæspitosum, caule tenui repente, ramis arcuato-erectis fasciculato-ramulosis. Folia lanceolata, acuminata, patentia, superne serrata, cellulis linearibus, costellis binis brevissimis; capsula in pedicello elongato obovato-oblonga, macrostoma, subpendula, operculo e basi conica tenuiter brevirostrato.

Hab. America centralis, in lacu Nicaragua, ad summitatem montis insulæ Ometepe, ad arbusculas.

13. E. URCEOLATUM (*Hornsch. in Mart. Fl. Bras. Musc.* 87, t. 4, Hypnum). Prostratum, ramis brevibus inæqualibus lutescentibus nitidis compressis densifoliis. Folia caulina dense imbricata, auguste lanceolata, acuminata, stricta v. parum apice falcata, enervia, supra basin distincte denticulata, e cellulis angustissimis elongatis leptodermibus parum chlorophyllosis mollibus ubique composita; perichætialia angustius acuminata. Theca in pedunculo longiusculo tenui glabro nutans, minute ovalis, urceolata, operculo cupulato mamillato, calyptra glabra; peristomii dentes interni ciliis 2–3 interjectis.—*C. Müll. Syn.* ii. 240.

Hab. Brasilia, prope Rio Janeiro, in sylvis montanis, *Martius.*

14. E. BREVISETUM (*Hornsch. in Mart. Fl. Bras. Musc.* 78, Hypnum). Caulis gracillimus, repens, subfasciculatim ramosus, ramis vagis subsimplicibus complanatis amœne viridibus. Folia caulina laxe imbricata, disticha, patentia, lanceolato-acuminata, subobliqua, caviuscula, integerrima, enervia, longe anguste pellucide reticulata; perichætialia intima e basi latiore concava longissime lanceolato-subulata, subintegerrima, enervia, pellucida, pallide virescentia, superne elongate anguste basi laxius reticulata. Theca in pedunculo gracili tortili apice parum curvato incrassato lævi ferrugineo suberecta, ob curvaturam pedunculi cernua, obovata, brevis, æqualis, pallide brunnea, deoperculata horizontalis fusca, operculo dimidio breviore luteo; peristomii dentes exteriores inferne rufescentes, interiores lutei, lanceolato-subulati, solidi, punctati, ex unica cellularum serie compositi, ciliis singulis punctatis hyalinis.—*C. Müll. Syn.* ii. 286.

Hab. Brasilia, prope Rio Janeiro, ad truncos arborum, *Merkel.*

15. E. GRACILLIMUM (*Hornsch. in Mart. Fl. Bras. Musc.* 78, Hypnum). Caulis repens, gracillimus, radiculoso-tomentosus, rufus, innovationibus plerumque simplicibus, interdum brevissime ramulosis, compressis, pallide viridibus. Folia disticha, erecto-patentia, subsecunda, ovato-acuminata, subobliqua, integerrima, enervia, margine anguste reflexo, cellulis ubique angustis virentibus; perichætialia intima e basi latiore concava, vaginata, longissime lanceolato-subulata, subserrulata, enervia, subhyalina, basi laxe quadrate reticulata, cætera integerrima. Theca in pedunculo erecto tortili

lævi ferrugineo apice pallidiore incrassato curvulo pendula, oblongo-ovata, æqualis, deoperculata obconica, fusco-brunnea, operculo ferrugineo dimidio breviore conico acuto; peristomii dentes exteriores ferruginei, interiores lutei, solidi, ciliis solitariis brevioribus pallidis.—*C. Müll. Syn.* ii. 278.

Hab. Brasilia, prov. Minarum, locis umbrosis, *Martius.*

Ex auctore *H. splendidulo* valde affine.

16. E. **HOOKEROIDES** (*C. Müll. Syn.* ii. 342, Hypnum). Repens, irregulariter subpinnatim ramosum, ramis brevibus erectis curvatis breviter ramulosis. Folia caulina dense imbricata, subsecunda, erecto-patentia, luteo-viridia, concava, late ovata acuminata, obscure et remote serrulata, nervis debilibus obscuris infra medium evanidis, cellulis conferte linearibus; perichætialia exteriora ovata, breviter acuminata, interiora longiora, oblonga, longe acuminata, intima minuta lanceolata, omnia integerrima enervia dilute viridia laxe reticulata. Theca in pedunculo unciali et longiore erecto apice curvato et incrassato flexuoso lævi purpurascente nutans, obovata, brevis, inæqualis, curvula, paullo rugosa, badia, operculo hemisphærico-conico paulisper incurvo badio; peristomii dentes externi linea longitudinali diaphana angustissima exarati, subtilissime trabeculati, ad margines costato-prominentes ferruginei, apice pallidi, interni in membrana lutescente, æquilongi, lati, solidi, ciliis subulatis hyalinis, articulo inferiore plerumque bifido instructis.—*C. Müll. l. c.*

Hookeria hypnoides, *Hornsch. in Mart. Fl. Bras. Musc.* 47, sed calyptra cucullata.

Hab. Brasilia prope Tijuca, in vicinia Rio Janeiro, *Olfers.*

17. E. **SPLENDIDULUM** (*Hornsch. in Mart. Fl. Bras. Musc.* 78, Hypnum). Longe repens, ramis brevibus subsimplicissimis pinnatulum, peranguste deplanatum, luteo-viride, flaccidum, nitidulum. Folia caulina laxe imbricata, basi brevi constricta, margine erecto vix denticulato, concava, nervis obsoletis, cellulis pallidissimis subconflatis basi flavidis, alaribus majusculis vesiculæformibus flavidis; perichætialia longius acuminata, haud filiformia, latius vaginantia, margine parum reflexo magis denticulato. Theca in pedunculo breviusculo lævi purpureo horizontalis v. pendula, parva, obovata, brevis, basi substrumosa, deoperculata ore dilatato, brunnea, exannulata, operculo hemisphærico brevissime rostellato dimidia thecæ longitudine; peristomii dentes externi latere cristato-trabeculati, pallide ferruginei, apice hyalini punctati, interni lutescentes paullo breviores solidi, ciliis solitariis capillaribus vix brevioribus.—*C. Müll. Syn.* ii. 283.

Hab. Brasilia, Sierra dos Orgaos supra saxa ad arborum truncos sylvestrium, *Beyrich*; prope Tijuca, in vicinia urbis Rio de Janeiro, *Olfers, Sellow, Merkel*; in Sierra d'Estrella et prope urbem S. Paulo, *Martius.*

18. E. **CYLINDRICUM** (*Hornsch. in Mart. Fl. Bras. Musc.* 73, Hypnum). Dioicum?; caulis repens irregulariter pinnatim ramosus, ramis patentibus prostratis plerumque simplicibus laxiusculis. Folia densa, erecto-patentia, lanceolata, longe acuminata, integerrima, enervia, rufescentia,

anguste lineari-areolata; perichætialia longissime acuminata, concava, marginibus involutis, integerrima, enervia, luride viridia, laxius reticulata; theca in pedunculo lævi tortili fuscescente cernua, anguste cylindrica, brunnea, ore purpurascente, operculo conico subulato obliquo longiore, calyptra glabra; peristomii dentes externi intus parum cristati rufescentes, interni lutei articulati, ciliis rudimentariis.

H. estrellæ, *C. Müll. Syn.* ii. 375.

Hab. Brasilia, Serra d'Estrella, ad truncos arborum sylvestrium, *Beyrich.*

19. E. LÆVIFOLIUM (*Mitt.*). Monoicum; caulis depresse cæspitosus, ramosus. Folia compressa, plana, superiora oblongo-ovalia, obtuse acuta, lateralia patentia, plana complicatave, inferiora conformia, omnia obsoletinervia, margine crenulato-serrulata, cellulis angustissimis rigidulis; perichætialia ovata, breviter lateque acuminata, serrulata. Pedunculus elongatus. Theca breviter ovata, nutans, peristomii interni processibus carinatis dentium longitudine, ciliis in unum æquilongum intus trabeculatum coalitis, in membrana usque ad dentium longitudinis ⅓ producta insidentibus.

Hab. Andes Bogotenses, *Weir,* n. 425.

Caulis procumbens, irregulariter subpinnatus, cum foliis lineam dimidiam parum excedens. Folia viridia, nitida, sicca immutata. Pedunculus 9-linearis.

Ex habitu formaque foliorum *Taxitheleo plano* simile, sed foliis nitidis cellulis lævibus diversissimum.

20. E. TRUNCATULUM (*C. Müll. Syn.* ii. 263, Hypnum). Caulis depressus, pinnatim ramosus. Folia compressa, omnia conformia, oblique obtusa, lateralia patentia, plus minus complicata, omnia nervis brevibus obsoletisve, margine crebre crenulato-serrulata, denticulis compositis, cellulis angustissimis, papillis singulis e medio limitibusque cellularum prominentibus papillosis; perichætialia late lanceolata, obtusa, creberrime serrulata. Theca in pedunculo elongato, breviter ovalis, horizontalis, peristomii dentibus crassis, interni processibus carinatis, ciliis in unum conflatis, in membrana ad tertiam dentium longitudinis exserta impositis.

Hab. Andes Quitenses, fl. Bombonasa, *Spruce.* In Peruvia ad Casapi, *Mathews, Pœppig.*

Caulis radicans, ramis 3–6 lineas longis, cum foliis semilineam latis. Folia viridia. Pedunculus uncialis, ruber.

21. E. CRASSICAULE (*Mitt.*). Caulis crassus, viridis, pinnatim ramosus. Folia omnia brevia, superiora secunda, hamata, decurva, e basi truncata ovato-lanceolata, sensim acuminata, inferiora breviora, subquadrata, acumine curvato, omnia integerrima, nervis brevibus, cellulis ellipticis latis pellucidis; ramea omnia lanceolata, acuminata, hamata superiora subserrulata; perichætialia erectiuscula, ovata, subulata, inte-

gerrima. Theca in pedunculo elongato pendula, ovalis, operculo conico, acuminato.

Hypnum Montagnei, *Schimp.*; *Sulliv. in Proceed. Amer. Acad.*

Hab. Ins. Cuba, *Wright*, n. 120, ex parte.

Caulis ramis 2-linearibus dense pinnatus, cum foliis ½ linea angustior. Folia flavescentia. Pedunculus 10-linearis.

22. E. FLAVOVIRIDE (*Mitt.*). Pinnatim ramosum, prostratum. Folia compressa, superiora lanceolata, sensim acuminata, lateralia patentia, inferiora e basi late ovato-subulata, omnia nervis brevibus, marginibus integerrimis, cellulis ellipticis laxis pellucidis, ramea apicibus subserrulatis minus tenuiter acuminatis, cæterum conformia; perichætialia patula, late ovata, subulata, integerrima. Theca in pedunculo elongato.

Hab. Ins. Cuba, *Wright*, n. 120, ex parte.

Folia flavo-viridia.

23. E. VESICULARE (*Schwægr.* t. 199, Hypnum). Depresse cæspitosum. Folia compressa, superiora ovata lateque ovalia, breviter acuminata, inferiora minora difformia, lanceolato-ovata, acuminata, ramea late ovata, interdum subrotundata, breviter acuminata, inferiora minora diversiformia, omnia nervis brevibus obsoletisve, marginibus apice subserrulatis, cellulis laxis ovalibus utriculo repletis; perichætialia patentia, ovata, subulato-acuminata. Theca in pedunculo elongato, breviter ovalis, pendula, operculo acuminato, peristomii interni ciliis binis.

Hookeria Pœppigiana, *Hampe, Ic. Musc.* t. 4.

H. prælongum, *W. Arn. Disp. Mouss.* 56, *ex obs. Wils. in Lond. Journ. of Bot.* 1848, 278.

Hab. Ins. Jamaica, *Reider*. Andes Peruvianæ, ad ostia rivuli Cumbasa (1300 ped.), *Spruce*, n. 1145; Chuchero, *Pœppig*.

Caulis pinnatus, ramis brevibus 2–3-linearibus, latitudine cum foliis lineam dimidiam parum excedentibus. Folia viridia, planiuscule compressa.

24. E. SUBDENTICULATUM (*C. Müll. Syn.* ii. 242, Hypnum). Caulis procumbens. Folia in seriebus superioribus ovato-acuminata, lateralia secunda, lanceolata, subulata, acuminata, inflexa, in seriebus inferioribus minora, diversiformia, ramea compressa, superiora ovata, acuminata, nonnullis intermixtis lanceolatis acuminatis, inferiora minora, lanceolata, omnia margine apicem versus subserrulata, nervis obsoletis, cellulis oblongo-ellipticis laxis; perichætialia a basi ovali longe subulato-attenuata, remote subserrulata. Theca "oblonga, ore constricta, operculo turgide et depresse cupulato, obliqua, rostrata, submamillata."

Hab. Ins. Jamaica, *Heward*; Trinidad, *Crüger*; Porto Rico, *Bertero*; Venezuela, *Funck et Schlim*, n. 353; Surinam, *Weigelt*, *Kegel*. Andes Peruvianæ, ad fl. Huallaga in lignis (1200 ped.), *Spruce*, n. 1152; in montibus Campana (3500 ped.), *Spruce*, n. 1153, et Guayrapurina (3000 ped.), n. 1154, secus Tarapoto (1500 ped.), *Spruce*, n. 1155.

Color e viridi fulvescens, demum flavescens.

25. E. CONOSTEGUM (*C. Müll. Syn.* ii. 242, Hypnum). Irregulariter pinnatum, ramis siccitate distincte curvatis flexuosis, tenerioribus subcontortis lutescentibus, hic illic fuscidulis, humore patentibus. Folia obsolete denticulata, sæpe integerrima. Pedunculus, theca et peristomium *H. Pœppigiani* (*E. acicularis*); operculum turgide conicum, acutum.—*C. Müll. l. c.*

Leskea (*Omalia*) *rutilans β. portoricensis,* Brid. ii. 332, e speciminibus imperfectis herbarii Brideliani, forma flaccidior videtur (*C. Müller*).

Hab. Ins. Cuba, *Doring*; Porto Rico, *Bertero.*

E. subdenticulato simillimum.—*C. Müll. l. c.*

26. E. AMPHIBOLUM (*Spruce, MS.*). Caulis prostratus, pinnatus. Folia compressa, superiora ovata acuminata, margine superne breviter serrulata, ramea late ovalia ovatave, acuminata, serrulata, inferiora diversiformia, lanceolata, longe minora, omnia nervis brevibus, cellulis grossis laxis; perichætialia erecta, ovalia, acuminata, serrulata. Theca in pedunculo elongato, parva, urceolata, nutans, operculo basi magno convexo, acumine brevi curvato, peristomii interni ciliis latis.

Hab. Ins. Cuba, ex *Herb. Montagne, Wright,* inter n. 120; Trinidad, *Black*; Guadelupe, *Sprengel*; Nova Granata, *Weir,* n. 419. Fl. Negro, loco S. Gabriel, ad terram saxa arboresque, *Spruce,* n. 1144; ibidem in sylvis, *Spruce,* n. 1163; fl. Huallaga cataractæ (1200 ped.), *Spruce,* n. 1147. Andes Quitenses, in fontibus calidis montis Tunguragua (7000 ped.), *Spruce,* n. 1142; Quito, *Jameson.* Andes Peruvianæ, in rivuli Shillicaio saxis (1500 ped.), *Spruce,* n. 1148; ad fl. Huallaga, in lignis (1200 ped.), *Spruce,* n. 1151; secus Tarapoto rivulum Marona-yacu (2000 ped.), *Spruce,* n. 1156. Brasilia, Laranjeiras, *Gardner,* n. 109.

Caulis elongatus, ramis 3–4-linearibus pinnatus, latitudine cum foliis lineam $\frac{2}{3}$ metiens. Pedunculus unciam longus.

27. E. RUTILANS (*Brid.* ii. 332, Leskea, Omalia). Breviter regulariter pinnatum, ramis subsimplicibus erecto-patentibus v. dichotomis decurvatis viridissimis v. luteo-viridibus, tenuiter complanatis, tenellis. Folia rami fertilis laxe conferta, parvula, e basi cordata enervi v. obsoletissime nervosa latiuscule ovato-acuminata, parum concava, integerrima, laxe chlorophyllose ampliuscule pellucide reticulata, mollia; perichætialia late lanceolata, convolutacea, longius flexuose acuminata, laxius areolata. Theca in pedunculo longiusculo glabro rutilante minuta, nutans, rotundo-ovata, operculo conico acuto obliquo.—*C. Müll. Syn.* ii. 234.

Hab. Ins. Porto Rico, *Bertero*; Venezuela, Cumbre de Valenzia (3000 ped.), *Wagner.* Brasilia, ins. Stæ. Catharinæ, prope Destero, in locis umbrosis, *Pabst.*

Ab *E. subdenticulato* differt foliis perichætialibus haud filiformi-acuminatis; ab *E. conostego* ramis viridibus, cellulis mollibus laxiusculis chlorophyllosis; ab *E. Pœppigiano* foliis conformibus enervibus v. obsoletissime nervosis, senioribus mollibus ovatis.—*C. Müll. l. c.*

98. PLAGIOTHECIUM, Schimp. Bryol. Europ.

Musci caulibus in cæspites latos congestis. Folia mollia, nitida, rarius obscura. *Habitatio* ad terram et rupes, etiam ad ligna putrida.

Flores monoici.
Folia media oblongo-lanceolata, lateralia late ovata subacuminata.
1. *P. novo-granatense.*
Folia media ovato-lanceolata, lateralia latiora subacuminata.
2. *P. denticulatum.*
Folia media ovato- oblongove-lanceolata, subacuminata, lateralia ovato-lanceolata .... 3. *P. Donianum.*
Flores dioici.
Folia media ovato-lanceolata, acuminata .... 4. *P. lucidulum.*
Folia cochleariformi-ovata, brevissime acuminata.
5. *P. orthocarpum.*

1. P. NOVO-GRANATENSE (*Hampe in Linnæa*, xxxii. 531, Hypnum). Monoicum. Folia compressa, subsecunda, media oblongo-lanceolata, lateralia patenti-divergentia, late ovata, concava, subacuminata, nervis fere ad medium productis, marginibus subrecurvis, cellulis elongatis angustis latitudine $\frac{1}{3000}$, longitudine $\frac{6}{1000}$ unciæ metientibus; perichætialia erecta, interna late oblonga, breviter acuminata, convoluta. Theca in pedunculo elongato, oblonga, inclinata horizontalisve, operculo conico acuminato.

Hab. Andes Bogotenses, Cipacon in sylvis ad terram humosam (2600 metr.), *Lindig*; in sylvis supra Pacho ad arbores (6500 ped.), *Weir*, n. 129; in descensu a planitie Bogotensi ad Fusagasuga, ad arbores putrescentes (6000 ped.), *Weir*, n. 236. Andes Quitenses, Tunguragua, ad terram umbrosam, *Spruce*, n. 1056, 1057.

P. Doniano peraffine et vix nisi cellulis minoribus diversum.

2. P. DENTICULATUM (*Linn.*; *Dill.* t. 34. f. 5, Hypnum). Monoicum. Folia distiche complanata, media ovato-lanceolata, lateralia patenti-divergentia, latiora, asymmetrica, apice subacuminata, subintegerrima, nervis brevibus, marginibus inferne recurvis, cellulis elongatis angustis; perichætialia breviora, conformia, erecta, convoluta. Theca in pedunculo elongato, ovalis, inclinata, sicca subplicata, operculo conico acuminato, peristomii dentibus luteis intus lamellatis, interni processibus ciliisque in unum capillare coalitis, articulis prominentibus æquilongis, in membrana usque ad dentium longitudinis $\frac{1}{3}$ exserta insidentibus.

Hab. Peruvia ad Chachapoyas, *Herb. Hooker.*

Folia nitida, pallide viridia, straminea vel lutescentia, cellulis longitudine $\frac{4}{1000}$, latitudine $\frac{1}{2000}$ circiter metientibus.

3. P. DONIANUM (*Sm. Eng. Bot.* t. 1446, Hypnum). Monoicum. Folia distiche complanata, media ovato- oblongove-lanceolata, subacumi-

nata, lateralia patenti-divergentia, late ovato-lanceolata, asymmetrica, acuta subacuminatave, plus minus concava, margine subrecurva integerrima, nervis brevibus, cellulis angustis elongatis; perichætialia erecta, interiora late oblonga, breviter acuminata. Theca in pedunculo elongato, oblongo-cylindracea, inclinata, operculo acuminato, peristomio *P. denticulati.*

Hab. Fuegia, ins. Hermite, *J. D. Hooker.*

Folia nitida, viridia fuscescentia.

Cum *P. denticulato* habitu adspectuque convenit, sed statura paulo major, rami ut plurimum longiores, folia viridiora vix lutescentia, cellulis longioribus $\frac{4-6}{1000}$ unciæ longis, $\frac{1}{2000}$ latis circiter metientibus.

4. P. LUCIDULUM (*Hook. fil. et Wils. Crypt. Ant.* t. 155. f. 1, 2, Hypnum). Caules subfasciculatim ramosi, curvati. Folia compressa, media ovato-lanceolata, acuminata, nervis angustis, marginibus integerrimis inferne subrecurvis, cellulis elongatis angustis; perichætialia erecta, oblongo-lanceolata, sensim acuminata. Theca in pedunculo elongato, oblonga, horizontalis, operculo acuminato, peristomio *P. denticulato* simili.

Hab. Andes Quitenses, Quito, *Jameson.* Fuegia, Hermite Island, *J. D. Hooker*; etiam in ins. Falkland.

P. denticulato simillimum, sed folia acutiora, cellulis multo angustioribus, latitudine $\frac{1}{4000}$, longitudine $\frac{4}{1000}$ unciæ circiter metientibus.

5. P. ORTHOCARPUM (*Hornsch. in Flora,* iii. 520; *C. Müll. Syn.* ii. 253, Hypnum). Dioicum, dense cæspitosum, erectum, sæpius breviter dichotomum, anguste compressum, fragile, haud splendens, laxifolium, molle, apice subcuspidato gemmaceo clauso. Folia pallide viridia, sicca et madefacta erecto-appressa, e basi angustiore symmetrica cochleariformi-ovata et concava, obtusa brevissime acuminata, margine convexo subintegerrimo, nervis longiusculis sublatis æqualibus basi conflatis, cellulis longis laxis mollibus pellucidis pallide virentibus, alaribus laxis elongate quadratis decurrentibus; perichætialia convolutaceo-vaginantia, distinctius acuminata, tenuiora. Theca in pedunculo elongato recto purpurascente lævi valido molli, elongate cylindrica, angusta, erecta v. vix inclinata, ore coarctata, fuscescens, leptodermis; peristomii dentes externi denticulati, interni albidi.—*C. Müll. l. c.*

Hab. Chili ad Talcahuano, *Chamisso.*

P. denticulato haud dissimile.—*C. Müll. l. c.*

99. ENTODON, C. Müll. in Bot. Zeit. 1844, 740, et Syn. ii. 59.

Musci caulibus sæpe eleganter pinnatis. Folia imbricata, nitida. Thecæ elongatæ. *Habitatio* ad terram et in arboribus.

Sect. 1. CAMPYLODONTIUM. *Peristomium internum fere obsoletum.* Folia ovato-lanceolata, sensim angustata, subacuminata.

1. *E. onustus.*

Folia lanceolata, sensim acuminata, acuta ...... 2. *E. Regnellianus.*

Sect. 2. Leptohymenium. *Peristomium internum processibus angustis. Caulis repens, ramis adscendentibus.*

Folia late ovata, acumine parvo terminata ...... 3. *E. longisetus.*

Folia latissime ovata, obtusa, breviter acuminata.. 4. *E. teres.*

Folia subquadrato-ovata, breviter acuminata .... 5. *E. squarrosus.*

Folia ovata, longius acuminata, acumine filiformi subreflexo patulo. 6. *E. consanguineus.*

Sect. 3. Cylindrothecium. *Peristomium internum processibus angustis. Caulis adscendens, ramis distiche dispositis.*

Pedunculus ruber.

Folia late oblongo-ovata, acuta .... 7. *E. Beyrichii.*

Folia media oblongo-ovata, lateralia late ovata acuta. 8. *E. erythropus.*

Folia ovato-acuminata, regulariter concava .... 9. *E. complicatus.*

Pedunculus pallidus flavidus viridisve.

Flores monoici.

Folia complanata, media oblongo-lanceolata, lateralia ovato-lanceolata complicato-concava .... 10. *E. macropodus.*

Folia media ovata, lateralia latiora, acumine decurvo serrulata. 11. *E. pallescens.*

Folia media ovato-oblonga obtusiuscula acuta, lateralia latissime ovata complicata...................... 12. *E. Hampeanus.*

Folia omnia ovato-lanceolata, acuta .... 13. *E. pallidisetus.*

Folia late lanceolata acuminata, obtusiuscula. 14. *E. distans.*

Folia angustissime lanceolata, longiuscule stricte acuminata. 15. *E. neglectus.*

Folia media late ovata, breviter acuminata, lateralia latiora complicata. 16. *E. virens.*

Folia late ovato-acuminata, obtusiuscula, concava. 17. *E. columnaris.*

Folia late lanceolata, acuminata obtusiuscula. 18. *E. truncatus.*

Folia ovato-oblonga, oblongo-lanceolata lanceolatave. 19. *E. Jamesoni.*

Folia e basi contracta ovato-acuminata...... 20. *E. ramosissimus.*

Folia e basi angustiore late ovato-lanceolata.. 21. *E. gracilisetus.*

Folia late oblongo-lanceolata, acuminata, basi uno latere contracta. 22. *E. aurescens.*

Folia oblongo-lanceolata, anguste acuminata. 23. *E. propinquus.*

Folia late ovata, acuminata, deflexo-falcata .. 24. *E. cupressiformis.*

Folia late oblongo-ovata, suboblique acuta .. 25. *E. incurvatus.*

Flores dioici .... 26. *E. densus.*

Sect. 1. *Campylodontium*, Dozy et Molk.

Musci foliis subplicatis viridibus et stramineis. Florescentia monoica.

1. E. ONUSTUS (*Hampe*). Rami procumbentes, subsimplices. Folia densa, patentia, subcompressa, inferne biplicata, interdum plica etiam medio exarata, integerrima, nervis fere obsoletis, cellulis elongatis angustis ad angulos pluribus quadratis pellucidis; perichætialia erecta, ovato-subulata, subintegerrima, plicata. Theca in pedunculo elongato flavo, ovalis, æqualis, erecta, operculo conico-subulato, peristomii dentibus brevibus flavidis teneris punctulatis sæpe inter se cohærentibus, interno e fragmentis externo adhærentibus composito.

Mesonodon onustus, *Hampe in Ann. Sc. Nat.* ser. 5. iv. 366.

Hab. Andes Peruvianæ, Casapi, *Mathews in Herb. Hooker.*; in monte Campana (3500 ped.), *Spruce*, n. 1016. Andes Bogotenses, San Jil, *Lindig.*

Rami ½-unciales. Folia pallide viridia, nitida. Pedunculus subuncialis. Theca pallide fusca.

Habitu statura formaque foliorum *C. flavescenti* Indiæ orientalis simillimum.

2. E. REGNELLIANUS (*C. Müll. Syn.* ii. 68, Neckera). Caulis repens, sciuroideus, humilis, crassiusculus, homalophyllus, ramis brevibus simplicibus densifoliis haud complanatis subcompressis pallide viridibus nitentibus. Folia caulina profunde concava, longitudinaliter pluries valde plicata, basi subrotundata, haud constricta, margine plerumque usque ad medium valde revoluto, apice obsolete denticulata, cellulis anguste linearibus pellucidis, alaribus multis regulariter quadratis pellucidis, nervis subnullis; perichætialia late vaginantia, longissime tenuissime acuminata, integerrima, erecta, externa pro more minora reflexiuscula. Theca in pedunculo mediocri flavido, ovalis, brevis, macrostoma.—*C. Mull. l. c.*

Hab. Brasilia, ad Caldas in Minas Geraës, *Regnell*, col. ii. n. 357.

Quoad thecam *N. truncatæ* similis.—*C. Müll. l. c.*

Sect. 2. *Leptohymenium.*

Musci caulibus repentibus arcte radicantibus, ramis breviusculis erectis adscendentibusve julaceis, cæspitosis. Flores monoici.

3. E. LONGISETUS (*Hook. Musc. Exot.* t. 43, Neckera). Folia patentia, imbricata, late ovata, concava, acumine parvo terminata, margine apice serrulato, enervia, cellulis angustis basi pluribus quadratis oblatisque obliquis planiusculis; ramulina obsoletinervia; perichætialia erecta, interna elongate lanceolata, subulata, apice serrulata, obsoletinervia. Theca in pedunculo rufo, operculo subulato, peristomii parvi brevis dentibus pallidis rubris teneris, interni processibus ciliiformibus, dentibus subæquilongis iisque plus minus adhærentibus.

Leptohymenium cylindricaule, *Hampe in Ann. Sc. Nat.* ser. 5. iv. 372.

Hab. Mexico, *Galeotti*, n. 6888, forma minor setis crassioribus; Nova Granada, in monte Quindiu, *Humboldt et Bonpland*; Santa Martha, *Purdie*; Rio Hache, *Schlim*, n. 869. Andes Bogotenses, ad lapidem prope Pacho et in arboribus prope Veraguas (5000–5500 ped.), *Weir*, n. 272. Andes Quitenses, Pallatanga (6000 ped.), *Spruce*, n. 1021; Guataxi (7000 ped.), in cordillera occidentali, *Spruce*, n. 1022; Baños (6000 ped.), *Spruce*, n. 1023. Brasilia, prope Constitutao, in arboribus putrescentibus (2000 ped.), *Weir*, n. 45.

Rami 1–2-unciales, ramulis 3–4-linearibus. Folia nitida, viridia lutescentia. Pedunculus uncialis, flavus rufusve. Theca rufo-fusca pallida.

4. E. TERES (*C. Müll. Syn.* ii. 98, Neckera). Dense cæspitosus intertextus, ramis pulcherrime sericeis sulphureo-viridibus adscendentibus crassiusculis inæqualiter breviusculis subsimplicibus irregulariter intertexto-pinnatus. Folia caulina densissima, tenera, subpellucide viridia, basi chlorophyllosa, cellulis linearibus angustis, alaribus laxe quadratis chlorophyllosis, dein pellucidis subgranulosis, series regulares rectas efficientibus, nervis brevibus sæpe obsoletis; perichætialia late vaginantia, stricta, longe lanceolata, pallidissima, cellulis basi tenerrimis laxis, superne veluti conflatis vix conspicuis, plicata. Pedunculus purpureus.—*C. Müll. l. c.*

Hab. Mexico, *Galeotti*.

5. E. SQUARROSUS (*C. Müll. Syn.* ii. 100, Neckera). Rami procumbentes, sæpe arcuati, apicibus attenuatis radicantibus, ramulis curvatis subpinnati. Folia patentia, dense imbricata, concava, nervis brevibus inconspicuis, marginibus apice subserrulatis, cellulis angustis ad angulos pluribus oblatis rhomboideisque planiusculis; perichætialia erecta, externa apicibus squarroso-recurvis, interiora erecta, convoluta, lanceolato-subulata, integerrima. Theca in pedunculo rufo, ovali-cylindracea, ochracea, leptoderma, operculo conico acuminato rectiusculo, peristomii dentibus brevibus rubris inferne striatulis linea media exaratis, superne fissilibus, ciliis angustis adhærentibus.

Hab. Venezuela, *Moritz*; Caracas, *Birschell*. Andes Bogotenses, in sylva supra Pacho (6500 ped.), *Weir*, n. 139. Andes Quitenses, Tarapoto ad *Crescentiæ* corticem (1500 ped.), *Spruce*, n. 1020. Brasilia, *Gardner*, n. 77, 77*b*; in sylvis prope Castro (2000 ped.), *Weir*, n. 57.

Species *E. longiseto* gracilior, ramis ramulisque curvatis, foliis brevioribus viridibus aureis fulvescentibusque nitidis nunquam squarrulosis.

6. E. CONSANGUINEUS (*Hampe in Ann. Sc. Nat.* ser. 5. iv. 372, Leptohymenium). Gracilior, decumbens, inordinate ramosus; ramis brevibus, adscendentibus. Folia concava, dense imbricata, humida turgescentia, arcte imbricata, acumine stricto, integerrima, enervia, cellulis alaribus depresso-quadratis, intermediis pentagono-elongatis, cæteris linearibus; perichætialia convoluta, exteriora breviora, interiora elongato-lanceolata, longe acuminata, cellulis basilaribus laxis limpido-hyalinis, cæteris elongatis linearibus flavescenti-hyalinis. Seta brevis subuncialis, gracilis, lutescens.

Theca minor, ovato-elliptica, rufescenti-chrysea, vetusta parum obliqua; operculo conico subulato, subula sulcata subrecta; calyptra pallide flava; peristomium breve, externi dentibus lanceolatis, integris, flavidis, interni ciliis brevioribus concoloribus.—*Hampe, l. c.*

Hab. Andes Bogotenses, in montibus del Moro et Pacho (2200 metr.), quoque San Jil (1300 metr.), *Lindig.*

E descriptione ab *E. squarroso* ob folia acumine piliformi acuminata satis diversus videtur, specimina autem in collectione Lindigiana cum *E. squarroso* conveniunt.

Sect. 3. *Cylindrothecium*, Schimp. Bryol. Eur.

7. E. Beyrichii (*Schwægr.* t. 197, Neckera). Monoicus; rami procumbentes, laxe intricati, pinnatim ramosi, ramulis curvatis. Folia compressa, lateralia patentia, concava, nervis brevibus, marginibus apice serrulatis, cellulis angustis ad angulos paucis subquadratis; perichætialia externa apicibus recurvis, interna erecta, elongate oblonga, apice subito breviacuminata, integerrima. Theca fusca, recta vel arcuata, operculo conico acuminato, peristomii dentibus angustis striatulis, processibusque rubris punctulatis breviusculis, columella longe exserta.

Hab. Nicaragua, *Œrsted.* Andes Peruvianæ, Tarapoto (2000 ped.), *Spruce,* n. 1041, etiam in Peruvia, *Mathews.* Brasilia, *Beyrich, Blanchet,* n. 3868; Minas Geraës, *Clausen*; in sylvis prope Constitutao, ad arborem (2000 ped.), *Weir,* n. 37; Sierra Moretes, ad arbores (1800 ped.), *Weir,* n. 96.

Rami 2–3-unciales. Folia nitida, viridia lutescentia. Pedunculus 9-linearis.

8. E. erythropus (*Mitt.*). Monoicus, cæspitosus; rami elongati arcuati, apicibus radicantibus pinnatim ramosi. Folia subcompressa, superne convexe imbricata, inferne plana, cochleariformi-concava, basi contracta, marginibus in ramulinis ultimis apice serrulatis, nervis brevibus pallidis, cellulis elongatis ad angulos pluribus quadratis oblongisque; perichætialia caulinis parum longiora, e basi oblonga convoluta, subulata, apicibus recurvis integerrimis. Theca sicca sæpe plicata, operculo subulato theca dimidio breviore, peristomii dentibus angustis, apicibus pallidis fissilibus, processibus brevioribus angustis carinatis luteis.

Hab. Andes Quitenses, in valle Alausi (5000–7000 ped.); Lucmas, *Spruce,* n. 1031, et Guataxi, *Spruce,* n. 1030.

Rami 2–3-unciales, ramulis varie curvatis. Folia nitida, pallide viridia straminea.

E. Hampeano similis, foliis autem latioribus et pedunculo purpureo.

9. E. complicatus (*C. Müll. Syn.* ii. 66, Neckera). Monoicus, *E. Sullivanti* simillimus, sed parum latior, et siccitate complicate complanatus. Folia e cellulis elongatis perangustis distincte conspicuis pellucidis areolata; perichætialia latius vaginantia, longe acuminata, laxius reticulata. Theca

in pedunculo longiusculo solitario crassiore purpurascente, anguste cylindrica, robustior, leptodermis, pallida, operculo conico oblique rostrato robustiore; peristomii dentes externi longissimi, intense fusci, apice divisibiles; cilia interna dentes æquantia, angusta, carinata, concoloria, fusca, divisibilia.—*C. Müll. l. c.*

E. myurus, *Hampe in Linnæa*, xx. 82?

Hab. Venezuela, prov. Caracas, *Moritz*, n. 25bis.

10. E. MACROPODUS (*Hedw. Musc. Frond.* 3, t. 23, Neckera). Folia lateralia patentia, latiora, acuta, basi supra insertionem contracta, nervis obsoletis, marginibus apice minute serrulatis, cellulis angustis ad angulos quadratis concoloribus; perichætialia erecta, convoluta, interna ovali-subulata, integerrima. Theca in pedunculo viridi, cylindracea, erecta, operculo conico acuto, peristomii dentibus processibusque æquilongis carinatis rubris longitudinaliter striatulis.

Hab. Ins. Jamaica, *Swartz*, *Purdie*, *Heward*; Cuba, *Wright*, n. 71; Venezuela, ex *Herb. Dozy*; Nova Granata, Sancta Martha, *Schlim*, n. 1055. Brasilia, Sierra Moretes ad arbores (1800 ped.), *Weir*, n. 95.

11. E. PALLESCENS (*C. Müll. Syn.* ii. 63, Neckera). Dense cæspitosus, procumbens, flaccidus, rami ramulis pluribus pinnati. Folia subcompressa, planiuscula concavave, nervis obsoletis, cellulis angustissimis ad angulos paucis quadratis subimpressis; perichætialia erecta, elongata, arcte convoluta, apice breviacuminata. Theca in pedunculo "cylindraceo, pallide olivacea, operculo brevi minuto obliquo acuminato, peristomii dentibus externis brevibus late lamellosis breviter subulatis ubique pallidius aurantiacis, fissura hic illic hiante exaratis haud striatis; cilia breviora tenuissima concoloria."

Hab. Ins. Jamaica, *Wilds.* Andes Quitenses, in monte Pichincha (10,000 ped.), *Spruce*, n. 1025; Llalla (9000 ped.), *Spruce*, n. 1026.

Rami 1½–2-unciales, ramulis copiosis. Folia straminea nitida fuscescentia.

12. E. HAMPEANUS (*C. Müll. in Linnæa*, xviii. 705, Neckera). Rami procumbentes, pinnati, plani. Folia compressa, lateralia patentia, nervis fere obsoletis, marginibus apice crenulatis, cellulis angustis ad angulos paucis quadratis hexagonisque; perichætialia interna late oblonga, subulata, omnia apicibus recurvis. Theca in pedunculo elongato, cylindracea, operculo conico acuminato, peristomii dentibus angustis teneris rubris apice fissilibus, processibus concoloribus angustis carinatis.

Hab. Venezuela, ex *Herb. Dozy*; Caracas, *Moritz*, ex *Herb. C. Müller*; absque loco, *Humboldt*, n. 84, *in Herb. Hooker.* Andes Quitenses, Quito, *Jameson*, in valle Alausi ad rivulum Puma-Cocha (4000–5000 ped.), *Spruce*, n. 1040.

Rami 1–1½-unciales, ramulis 3-linearibus ramosi. Folia sicca et humida planiuscula, sordide viridia, vix nitida.

13. E. PALLIDISETUS (*Mitt.*). Cæspitosus; rami procumbentes irre-

gulariter laxe pinnati. Folia compressa, caulina apice minute serrulata, nervis brevibus, cellulis angustis ad angulos pluribus quadratis hexagonisque; perichætialia interna elongata, erecta, lanceolata, subulata, apicibus serrulatis. Theca in pedunculo elongato, cylindracea, operculo acuminato, peristomii dentibus processibusque angustis æquilongis flavo-fuscis obscuris.

Hab. Andes Quitenses, Agoyan (5500 ped.), *Spruce*, n. 1027. Andes Peruvianæ, in monte Campana, ad arbores (4000 ped.), *Spruce*, n. 1028.

Rami sub-2-unciales. Folia pallida e viridi lutescentia, nitida, valde compressa, media lateraliaque conformia. Pedunculus uncialis longiorque. Theca flavo-fusca.

14. E. DISTANS (*C. Müll. Syn.* ii. 61, Neckera). Elongatus, prostratus, planissimus, viridissimus, rigidus; rami ramulis longiusculis rigide patentibus distantibus breviter cuspidatis phyllogonoideo-imbricato-foliosis eleganter pinnati. Folia caulina perfecte planissima, disticha, dense imbricata, angustiora, subcymbiformia, magis plana, apice obsolete crenulata, nervis obsoletissimis, cellulis *E. Hampeani*; perichætia haud cylindracea, sed turgida, foliis maxime reflexis; pedunculus flavidus, longiusculus.

Hab. Venezuela, prov. Merida, Caripe, *Moritz*.

15. E. NEGLECTUS (*C. Müll. in Bot. Zeit.* 1856, 437). Prostratus, deplanatus, flavescens, nitidus, ramulis brevibus late complanatis pinnatus. Folia caulina substrictissima, conferta, symmetrica, planiuscula vel cymbiformi-concava, ubique denticulata, nervis binis brevibus obsoletis flavescentibus, cellulis ad alas basilares subventricose impressis vel planis, quadratis laxis teneris multis, sursum linearibus mollibus; perichætia angustissima elongate exserta, foliis appressis tenuiter membranaceis pallidis angustis acuminatis vaginatis, basi e cellulis elongatis laxis superne linearibus firmioribus areolatis, integris, enerviis. Theca in pedunculo brevi tenui erecta, cylindraceo-oblonga, multo brevior et angustior, exannulata, operculo conico recto, obtuso; peristomii dentes exteriores breviusculi, rubiginosi, fragiles, angusti, medio fissiles, remote articulati, interni rubiginosi, tenerrime capillares, inferne linea media notati, superne remote articulati, omnes læves.

Leskea sauroides, *Hornsch. in Musc. Mexic. Deppean.*

Hab. Mexico, *Deppe*.

E. mechoacano simillimus, sed foliis falcatis latis asymmetricis, stolonibus hypnoideis tenuibus et theca multo majore primo momento differt. An theca hujusce speciei exannulata sit latet.—*C. Müll. l. c.*

16. E. VIRENS (*Hook. et Wills. in Hook. Lond. Journ.* 1844, iii. 158, Neckera). Rami breviusculi, irregulariter pinnatim ramosi. Folia compressa, nervis brevibus, margine erecta vel recurva, apice serrulata, cellulis angustis ad angulos paucis quadratis; perichætialia erecta, convoluta, elongata, late elliptica, acuminata. Theca in pedunculo brevi, oblongo-

cylindracea, operculo breviter conico acuminato; peristomii dentes apice fissiles, interni processus æquilongi angusti.

Hab. Brasilia, Sierra dos Orgaos, ad cataractam quamdam, *Gardner*, n. 76.

Rami unciales. Folia viridia vix nitida. Pedunculus 3-linearis.

17. E. COLUMNARIS (*Schwægr.* t. 319, Neckera). Latiuscule complanatus, ramis brevibus, ramulis brevissimis patentibus, pallide viridibus nitentibus planissimis. Folia caulina patule imbricata, margine superne denticulato ubique erecto, nervis brevissimis, cellulis anguste linearibus, alaribus paucis planis laxe quadratis pellucidis granulosis; perichætialia vaginantia, longiuscule anguste acuminata, recta. Theca in pedunculo longiusculo erecta cylindracea fuscidula; peristomii dentes externi longe lanceolato-subulati, aurantiaci, plani, indistincte trabeculati, fissura hic illic hiante exarati; cilia dentes æquantia, tenuissima, carinata, nodosiuscula, fissura hic illic hiante pertusa; columella longe exserta.—*C. Müll. Syn.* ii. 62.

E. Schwægricheni, *C. Müll. in Linnæa*, xviii. 705.

Hab. Brasilia, *Herb. Reg. Berolinense.*

E. truncato proximus, sed foliis angustioribus, minus concavis, theca cylindracea longiore, dentibus haud striatulis, sed concolori-aurantiacis et ciliis multo angustioribus aurantiacis nodosiusculis differt.—*C. Müll. l. c.*

18. E. TRUNCATUS (*C. Müll. Syn.* ii. 62, Neckera). Habitus *E. Hampeani*, sed rami breviores; folia *E. distantis*; perichætia et folia perichætialia *E. Hampeani.* Theca in pedunculo elongato tenui erecta, brevis, cylindraceo-ovalis, ore æquali veluti truncato, igitur macrostoma, operculo conico longe oblique aciculari; peristomii dentes externi longi late lanceolato-subulati, fissura obscura non hiante notati, ubique concolori-fuscidudi et rugulose striatuli, articulis rotundatis remotis, plani, interni cilia dentes æquantia valde regularia, magis fuscidula, rugulosa, articulis longis angustis, diaphane carinatis vix hiantibus.—*C. Müll. l. c.*

Hab. Chili, *Pœppig.*

19. E. JAMESONI (*Tayl. in Hook. Lond. Journ.* v. 59, Pterogonium). Rami breviusculi, ramulis paucis pinnati. Folia compressa, subsecunda, acuminata, concava, nervis fere obsoletis, marginibus subrecurvis apice serrulatis, ramulina angustiora, evidentius serrulata, cellulis angustis ad angulos paucis subquadratis; perichætialia elongata, convoluta, interna lineari-oblonga, acuminata. Theca in pedunculo brevi, ochracea, cylindracea, ore angusto intense purpureo, operculo subulato, peristomii dentibus brevibus internisque æquilongis sublævibus rubris.

Neckera leptocarpa, *Hook. et Wils. l. c.* 452, t. 15 L.

Entodon polycarpus (*Schimp.*) et E. lutescens, *Hampe in Ann. Sc. Nat.* ser. 5. iv. 370.

Hab. Andes Bogotenses, ad viam a Pacho ad Veraguas, ad arborum truncos (6500 ped.), *Weir*, n. 271, *et Lindig.* Andes Quitenses, Pichincha, *Jameson* et (9500–11,000 ped.) *Spruce*, n. 1033; Baños (6000 ped.), *Spruce*, n. 1034; Tunguragua (7000–10,000 ped.), *Spruce*, n. 1035, ibidem ad rivulum Vascun, *Spruce*, n. 1036; in montibus Chimborazo (10,000 ped.), *Spruce*, n. 1037; Titaicun (11,000 ped.), n. 1038, et Guayrapata (9000 ped.), n. 1039.

Rami 1–1½-unciales, ramulis 4–6-linearibus. Folia luteo-viridia. Pedunculus 4–6-linearis. Theca 1½-linearis.

Neither in size, colour, ramification, nor structure does there appear to be any distinction between the specimens referred here to *E. Jamesoni.*

20. E. RAMOSISSIMUS (*Hampe in Ann. Sc. Nat.* ser. 5. iv. 371). Procumbenti-prostratus, inferne purpureo-tomentosus, ramosissimus, sordide viridis, lutescenti-splendens, ramis copiosis, approximatis, pinnatim dispositis, compressis, attenuatis, sæpe apice radiculis purpureis ornatis flexuoso-curvatis. Folia breviora, concava, deflexo-falcato-incurvata, ramorum angustiora, apice parce dentata, nervo flavescente bifurco brevi, cellulis alaribus quadratis hyalinis, cæteris linearibus, flavescenti-hyalina; perichætialia convoluta, oblongo-lanceolata, longe acuminata, integerrima, enervia, cellulis basilaribus laxioribus, tota hyalina. Seta vix uncialis vel brevior, gracillima. Theca elliptico-cylindrica, angusta, pallide chrysea, ore nigricante, operculo brevi flavido conico acuminato subrecto, peristomii externi dentibus cruentis lanceolato-subulatis solidis, interni ciliis filiformibus brevioribus sanguineis.

Hab. Andes Bogotenses, Pacho (2200 metr.) ad arbores, *Lindig.*

E. incurvatum (*Neckeram* Hornsch.) æmulans, sed differt caule ramosissimo, minus complanato, foliis longioribus et angustioribus, cellulis alaribus latioribus magis hyalinis et nervo distincto bifurco, thecaque vetusta pallida nec fuscata.—*Hampe, l. c.*

21. E. GRACILISETUS (*Hampe in Ann. Sc. Nat.* ser. 5. iv. 368). Decumbens, prostratus, laxe pulvinatim expansus, lutescenti-splendens; caulis complanatus, pinnatim ramosus, elongatus, ramis complanatis, cuspidatis, aduncis, folia undique imbricata, accumbentia, humida erecto-patula, subdisticha, concava, acutiuscula, apice denticulata, nervo gemello brevi, obscuro vel obsoleto, cellulis alaribus laxe quadratis, cæteris anguste pentagonis elongatis sublinearibus, omnino limpido-hyalina; perichætialia laxe imbricata, exteriora breviora, interiora vaginantia elongata late lanceolata longe acuminata integerrima enervia, cellulis laxioribus omnino hyalina, basi parce striata. Seta sesquiuncialis, gracilis, flexuoso-erecta. Theca rufescenti-chrysea, elliptico-cylindrica, ore rubro nitida, operculo conico-subulato, subrecto, pallidiore, quartam partem thecæ metiente, peristomii externi dentibus ferrugineis lanceolatis medio sessilibus, interni ciliis validis æquilongis cruentis; calyptra longa, glabra, straminea.

Hab. Andes Bogotenses, Pacho (2000 metr.), *Lindig.*

E. macropodo simillimus sed robustior, foliis latioribus et seta longiore primo visu differt.—*Hampe, l. c.*

22. E. AURESCENS (*Schimp.*; *Hampe in Ann. Sc. Nat.* ser. 5. iv. 369). Minor, densius aggregatus, laxe pulvinatim cæspitosus, irregulariter pinnatim ramosus, aureo-nitens, ramis compressis, parum curvatis, apice acutiusculis. Folia modice imbricata, accumbentia, humida erecto-patentia, concava, subobliqua, summo apice parce denticulata, nervis binis brevibus obscuris inæqualibus, cellulis alaribus quadratis, interstitiis crassis obscure pellucidis, cæteris elongatis versus apicem linearibus; tota folia pallide flava, diaphana. Seta vix uncialis vel brevior. Theca minor, oblongo-cylindrica, evacuata parum obliqua, pallide rufescens, ore purpureo, operculo breviter conico-rostrato, pallidiore, peristomii externi dentibus brevibus, lanceolato-subulatis, integris, linea media notatis, sanguineis, interni ciliis brevioribus filiformibus, subconcoloribus; calyptra flavescens, glabra.—*Hampe, l. c.*

Hab. Andes Bogotenses, Pacho (2200 metr.) in sylvis ad arbores, *Lindig.*

23. E. PROPINQUUS (*Hampe in Ann. Sc. Nat.* ser. 5. iv. 369). Decumbens, prostratus, pinnatim ramosus, compressus, pallide flavescens nitidus, ramis curvatis attenuatis. Folia concava, laxe imbricata, incurvato-flexuosa, acumine convoluto subintegerrima, nervo obsoleto furcato, cellulis alaribus quadratis, cæteris elongatis linearibus hyalinis; perichætialia convoluta, interiora magis acuminata, setacea. Seta gracilis, elongata, uncialis vel paulo longior. Theca elliptico-cylindrica, rufescenti-chrysea, operculo conico, attenuato, obtuso, breviore, latere sulcato; peristomii externi dentibus basi nigricantibus lanceolato-subulatis, solidis; interni ciliis angustissimis, subulatis, sanguineis.

Hab. Andes Bogotenses, Tequendama (2500 metr.), *Lindig.*

Ab *E. graciliseto* æmulo differt statura graciliore, foliis longioribus longe acuminatis flexuosis, operculo breviore et peristomii indole.—*Hampe, l. c.*

24. E. CUPRESSIFORMIS (*Hampe in Ann. Sc. Nat.* ser. iv. 372). Major, decumbenti-prostratus, elongatus, ramosus, viridis, caulis irregulariter pinnatim ramosus, parum compressus, subturgidus, ramis apice attenuatis, aduncis. Folia concava, undique accumbenti-imbricata, utroque latere basi parum revoluta, apice parce dentata, nervo bifurco obscuro, cellulis alaribus quadratis, intermediis pentagono-elongatis, cæteris linearibus, tota folia hyalina; perichætialia convoluta, imbricata, inferiora apice reflexo breviora, interiora erecta, oblongo-ovato-lanceolata, acuminata, subintegerrima; cellulis basilaribus laxioribus, nervo obsoleto. Seta lutescens, mediocris, adscendens. Theca rufescenti-chrysea, ore nigricante, elliptico-cylindrica, parum obliqua, operculo conico acuminato, parum obliquo, brevirostro, pallidiore, peristomii externi dentibus lanceo-

lato-subulatis, medio fissilibus, cruentis, siccis reflexis, interni ciliis filiformibus brevioribus subconcoloribus; calyptra pallida, glabra.

Hab. Andes Bogotenses, Pacho ad arbores (2200 metr.), *Lindig.*

Habitus *Hypni cupressiformis* memorabilis.—*Hampe, l. c.*

25. E. INCURVATUS (*Hornsch. in Mart. Fl. Bras. Musc.* 53, Neckera). Caulis repens, complanatus, apice radicans, foliosus, rubellus, interdum subpinnatim ramosus. Folia caulina subdisticha, homomalla, erecto-patentia, apice serrulata, concava, luteo-viridia, nervis obsoletis, cellulis longissime et angustissime linearibus, basilaribus brevioribus laxioribus; perichætialia exteriora latissime ovata, acuminata, integerrima, basi concava, apice recurvata, pellucida, interiora sensim angustiora longius acuminata, intima 5–6 oblongo-lanceolata, basi vaginata, longissime acuminata, laxius reticulata. Theca in pedunculo erecto subunciali magna, subcylindrica, ore angustato fusco; peristomii dentes externi lanceolato-subulati, margine inæquali, nodosi trabeculati perpendiculari-exarati ferruginei, interni parum breviores, e basi latiore lineari-subulati, angustissime pertusi purpureo-ferruginei.—*C. Müll. Syn.* ii. 320.

Hab. Brasilia, *Pohl.*

26. E. DENSUS (*Hook. in Kunth. Syn. Pl. Æq.* i. 61; *Schwægr.* t. 291, Leskea). Ramuli erectiusculi, ramosi, densiuscule cæspitosi. Folia patentia, laxe imbricata, late ovato-acuminata, margine planiusculo subintegerrimo, nervis fere obsoletis, cellulis angustis basi ad angulos pluribus oblatis obliquis; perichætialia erectiuscula, ovato-subulata, superne subserrulata. Theca in pedunculo elongato flavo ovalis, æqualis, erecta, operculo conico-acuminato.

Hab. Mexico, locis scopulosis, inter Pazcuaro et Ario (1000–1100 hexap.), *Humboldt et Bonpland.* Andes Quitenses, in valle Alausi loco Lucmas (5000 ped.), *Spruce,* n. 1017.

Rami ½–1-unciales, simplices vel ramosi. Folia undique inserta, sicca teretiuscule imbricata, subnitida, pallide viridia vel fulvescentia.

Caulis repens minus obvius, structura autem foliorum omnino hujus gregis.

100. ACROCLADIUM.

Musci foliis concavis excavatis in ramorum apicibus cuspidatim imbricatis. *Habitatio* ad terram et rupes.

Folia distichacea	1. *A. politum.*
Folia undique æqualia	2. *A. auriculatum.*

1. A. POLITUM (*Hook. f. et Wils. in Hook. Lond. Journ.* iii. 353; *Fl. Antarct.* ii. t. 154. f. 2, Hypnum). Rami procumbentes, cæspitosi, inordinate ramosi. Folia patentia, compressa, ovato-oblonga, acumine stricto flexuoso recurvove terminata, nervis brevibus, marginibus uno latere inflexis integerrimis, cellulis angustissimis; perichætialia erecta,

intima oblonga acuminata, enervia. Theca in pedunculo crassiusculo rubro cylindracea, inclinata, operculo acuminato brevirostro.

Phyllogonium callichroum, *Mont. in Ann. Sc. Nat.* ser. 3. iv. 87.

Hypnum phyllogonium, *C. Müll. Syn.* ii. 262.

Hab. Andes Bogotenses, Boqueron, prope Bogota (8600 ped.), infra rupes roridas ad ramulos putrescentes, *Weir*, n. 333. Andes Quitenses, in monte Picillun, *Jameson*. Chili, *C. Gay*, ex *Herb. Montagne*. Fuegia, Hermite Island, *J. D. Hooker*.

Rami unciales, ramosi. Folia nitida, arcte distichacea, *Phyllogoniis* simillima.

2. A. AURICULATUM (*Mont. Voy. Pôle Sud, Crypt.* t. 20. f. 3, Hypnum). Rami procumbentes, assurgentes, subsimplices, interdum arbusculose ramosi. Folia undique teretia, in ramorum apicibus cuspidate imbricata, orbiculato-ovata, concava, obtusa, basi cordata, nervo brevi furcato, marginibus integerrimis, cellulis angustissimis ad angulos pluribus pallidis laxis, in massam ventricosam impressam dispositis; perichætialia erecta, oblonga, obtusa, convoluta, obsoletinervia, integerrima. Theca in pedunculo elongato cylindracea, arcuata, operculo conico obtusissimo, peristomii dentibus pallidis luteis trabeculatis, interni processibus pertusis, ciliis binis angustis, in membrana ad dentium medium producta insidentibus.

Hypnum chlamydophyllum, *Hook. f. et Wils. in Hook. Lond. Journ.* iii. 552; *Fl. Antarct.* i. 139, t. 61.

Hab. Fuegia, Magellan, *Jacquinot*, ex *Herb. Montagne*; Sandy Point, *Lechler*, n. 1007. Crescit etiam in Australia, in Tasmania et in Nova Zealandia.

Rami 1–3-unciales, ramulis apicibus interdum decrescentibus radicantibus. Folia nitida, viridia lutescentia. Pedunculus uncialis.

Species pulcherrima, *Leskeæ maritimæ* Hook. Musc. Exot. t. 26 ex Africa australi similis.

101. STEREODON, Brid. ii. 550.

Musci polymorphi, ramis nunc in cæspites erectos adscendentesve congestis, nunc eleganter distichis plumæformiter dispositis. *Habitatio* ad terram et in arboribus.

Sect. 1. EUSTEREODON. *Theca erecta, æqualis, peristomio interno processibus obscuris, ciliis obsoletis.*

Species unica............................ 1. *S. hamatus.*

Sect. 2. DREPANIUM. *Theca arcuata, inclinata, peristomio interno processibus pellucidis, ciliis plus minus perfectis.*

Florescentia monoica.

Folia ovato-lanceolata, in acumen latiusculum planum argute serrulatum producta......................... 2. *S. affinis.*

Folia anguste lanceolata, acuminata, superne serrulata. 3. *S. aluminicola.*

Folia latiuscule ovato-lanceolata, longe acuminata, in subulam tenuem setaceam producta........................ 4. *S. spiripes.*

Florescentia dioica.

Folia oblongo-ovata, acuminata .... 5. *S. cupressiformis.*

Folia ovato-lanceolata, acuminata .... 6. *S. tunguraguanus.*

Folia a basi subovata, sensim longe angustata, acuminata. 7. *S. Lechleri.*

Folia ovali-oblonga, obtusa, acumine angusto piliformi. 8. *S. nitidus.*

Sect. 1. *Eustereodon.*

1. S. HAMATUS (*Mitt.*). Monoicus; rami cæspitosi, pinnatim ramosi. Folia compressa, falcato-secunda, superiora a basi sensim subulata, anguste attenuata, concava, marginibus superne subintegerrimis, enervia, cellulis angustis ad angulos paucis parvis obscuriusculis subimpressis inconspicuis, lateralia et inferiora latiora, ovali-lanceolata, attenuata, magis curvata; perichætialia erecta, interna longiora, elliptico-lanceolata, acuminata, subintegerrima, obsoletinervia. Theca in pedunculo elongato erecta, ovali-cylindracea, æqualis, operculo brevi acuminato, peristomii externi dentibus brevibus rubris, lamina interna inconspicua parum plicata, peristomii interni membrana altiuscula.

Hab. Andes Bogotenses, ad viam inter Tipaquira et Pacho, ad arborum ramos (8000 ped.), *Weir,* n. 265. Andes Quitenses, in montibus Chimborazo et Picillun (12,000 ped.), *Jameson*; Pichincha, ad arbores (12,000 ped.), *Spruce,* n. 1046.

Species statura adspectuque *S. imponenti* simillima, foliis autem splendentioribus, thecis tenerioribus et peristomii structura satis diversa.

Sect. 2. *Drepanium,* Schimp. Syn. 618.

2. S. AFFINIS (*Hook. in Kunth. Syn. Pl. Æq.* 64; *Schwægr.* t. 283, Hypnum). Rami pinnatim ramosi, apicibus ramulorum uncinato-recurvis. Folia subcompressa, erecto-patentia, superiora media intermediaque ovato-lanceolata, inferiora e basi latiore magis subulata, marginibus inferne recurvis, nervis fere obsoletis, cellulis angustis ad angulos pluribus quadratis flavidis impressis; perichætialia erecta, longiora, basi latiora, nervis tenuibus elongatis, subplicata. Theca in pedunculo elongato rubro cylindracea, suberecta, arcuata, operculo conico acuminato, peristomii interni ciliis binis angustis.

Hab. Andes Novo-Granatenses, in umbrosis montis Quindiu (1050 hexap.), *Humboldt et Bonpland.* Andes Bogotenses, in descensu a planitie Bogotensi versus Fusagasuga, ad arborum ramos (7000 ped.), *Weir,* n. 238; in declivibus ad cataractam Tequendama (7600 ped.), *Weir,* n. 241; in arboribus supra Pacho (6500 ped.), *Weir,* n. 278; ad arbores secus viam inter Bogota et Fusagasuga (7500 ped.), *Weir,* n. 374.

Rami 1–2-unciales, ramulis 4-linearibus pinnati. Folia nitida, lutescentia. Pedunculus 1½-uncialis.

3. S. **ALUMINICOLA** (*C. Müll. Syn.* ii. 291, Hypnum). Rami graciles, teneri, lutei. Folia caulina falcata, profunde concava, margine revoluto, nervis plerumque obsoletis v. altero brevissimo altero elongato flavido, cellulis basi flavidis, alaribus superioribus paucis quadratis pellucidis v. granulosis, inferioribus vesiculiformibus laxioribus aureis; perichætialia appressa, late ovata, breviter acuminata, margine revoluto v. erecto integro, concava, leviter plicata, enervia, inferne laxissime flavido-reticulata. Theca in pedunculo tenerrimo elongato lævi cernua, cylindrica, angustissima, macrostoma; peristomii dentes externi breves, latiuscule lanceolati, subulati, pallidi, trabeculis densis latere fimbriatis introrsum revolutis, interni in membrana pallida æquilongi angusti imperforati, ciliis æquilongis solitariis pallidis tenuissimis.—*C. Müll. l. c.*

Hab. Mexico, in cavernis aluminatis ad pedem montis Cerro de los Nabajos, *Ehrenberg.*

S. cupressiformi simillimus.—*C. Müll. l. c.*

4. S. **SPIRIPES** (*C. Müll.*; *Hampe in Ann. Sc. Nat.* ser. 5. v. 320, Hypnum). Late prostratum, ramosissimum, flavescens; caulis deplanatus, ramis inæqualibus apice curvatis. Folia dense imbricata, decurvo-falcata, basi concava, integerrima, obsolete binervia, cellulis alaribus angulatis, interstitiis crassis receptis conglobatis fuscis, cæteris angustis linearibus abbreviatis subincrassatis, tota folia lutescenti-diaphana; perichætialia convoluta, apice reflexa. Seta gracilis, erecta, uncialis, spiraliter torta, glabra. Theca oblongo-ovata, ore æquali.—*Hampe, l. c.*

Hab. Nova Granata, loco incerto, *Triana in coll. Lindig,* n. 21.

S. cupressiformi simile.—*Hampe, l. c.*

5. S. **CUPRESSIFORMIS** (*Linn.*, Hypnum), var. **LACUNOSUS**. Pinnatim ramosus. Folia laxe imbricata, oblongo-ovata, acuminata, concava, margine incurva, superne serrulata, nervis fere obsoletis, cellulis angustis ad angulos pluribus parvis rotundatis quadratisque vix incrassatis obscuriusculis; perichætialia erecta, anguste lanceolata, subulata, brevinervata, apice subserrulata. Theca in pedunculo elongato cylindracea, inclinata, arcuata, operculo acuminato. Flos masculus satis magnus, foliis pluribus orbiculari-ovatis acuminatis; antheridia numerosa.

Hab. Andes Quitenses, in monte Pichincha ad terram (1200 ped.), *Spruce,* n. 1043; in monte Carguairazo (1100 ped.), *Spruce,* n. 1044; et forma gracilior ex eodem loco, *Spruce,* n. 1045.

Forma eadem ac Europæa videtur, species autem vera inter muscos orbis novi rarissime reperitur.

6. S. **TUNGURAGUANUS** (*Mitt.*). Dioicus; caulis procumbens, pinnatim ramosus. Folia compressa, superiora media intermediaque ovato-lanceolata, acuminata, lateralia falcato-secunda inferioraque latiora, omnia concava, enervia, marginibus apice serrulatis, cellulis angustis teneris ad angulos nullis diversiformibus.

Hab. Andes Quitenses, in monte Tunguragua supra pagum Puela (6000 ped.), *Spruce,* n. 1048.

Rami 1–1½-unciales, inordinate pinnati. Folia nitida, lutescentia fulvescentia.

Ex habitu staturaque *S. cupressiformis* formæ *lacunoso* simillimus, sed structura foliorum diversissimus.

7. S. LECHLERI (*C. Müll. in Bot. Zeit.* 1856, 455, Hypnum). Eleganter decrescenti-pinnatus. Folia compressa, superiora media et intermedia e basi subovata sensim longe angusteque acuminata, symmetrica, lateralia et inferiora latiora, ovato-subulata, basi asymmetrica, nervis fere obsoletis, marginibus superne subserrulatis integerrimisve, cellulis angustissimis basi ad angulos paucis parvis oblongis incrassatis vix impressis; perichætia longiuscule exserta, robusta, foliis e basi late vaginante in acumen longissimum loriforme capillare subdenticulatum flexuosum productis. Theca in pedunculo elongato inclinata, cernua, oblonga, microstoma, peristomii robusti dentibus externis serrulatis, intus valde lamellatis, interni ciliis binis in capillum vix nodosum attenuatis lævibus.

Hab. Chili, ad Valdivia et Arique, *Lechler.*

Rami 2–3-unciales, graciles, ramulis 3–4-linearibus, ramosi. Folia viridia subnitentia fulvescentia.

S. chrysogastri paululo minor, sed habitu adspectuque simillimus.

8. S. NITIDUS (*Hook. f. et Wils. Crypt. Ant.* t. 154. f. 6, Leskea). Rami elongati, parum ramosi. Folia imbricata, in ramorum apicibus cuspidatim congesta, ovali-oblonga, obtusa, acumine angusto piliformi, concava, superne subplicato-striata, nervis brevibus, cellulis elongatis angustis parvis, alaribus nullis; perichætialia patula. Theca in pedunculo elongato inclinata, cylindracea, subarcuata, operculo brevirostro.

Hab. Fuegia, Hermite Island, *J. D. Hooker*; Staaten Land, *Menzies.*

Rami 2–3-unciales. Folia straminea.

Habitu *Hypno stramineo* Europæ subsimilis.

101*a*. CLADOMNION, Hook. fil. et Wils. Fl. New Zeal. ii. 96.

Musci ramis adscendentibus vel erectis parum divisis. Thecæ erectæ, plicatæ.

C. GRACILE (*Hampe, Ic. Musc.* t. 18, Leucodon). Dioicum; caulis subsimplex, gracilis, laxifolius, flexuosus, curvatus, pallide viridis. Folia caulina madore valde patula, parum secunda, anguste ovato-acuminata, stricta, margine late revoluto apice denticulato, plicis pluribus, nervis binis brevissimis obsoletis vel vix ullis, cellulis anguste linearibus longiusculis densis virescentibus subscariosis, basi fuscis, alaribus incrassatis quadratis minutis vix ullis fuscis; perichætialia pauca, convolutaceo-acuminata, integerrima, pallida, enervia. Theca in pedunculo brevi rubente lævi erecta, anguste elliptica, microstoma, 8-sulcata, late annulata, badia, operculo longe oblique aciculari; peristomii duplicis dentes exteriores angustissime lanceolato-acuminati, subcapillares, albidi, læves, remote articulati, linea longitudinali vix exarati, interiores tenerrimi, externis adglutinati, breviores, in membrana brevi positi.—*C. Müll. Syn.* ii. 115 (Neckera Pœppigiana).

Leskea distans, *Mont. in Ann. Sc. Nat.* ser. 3. iv. 95.

Hab. Chili australis, *Pœppig, C. Gay.*

102. PTYCHOMNION, Hook. fil. et Wils.

Musci caulibus erectis adscendentibusve vage ramosis. Folia plicata, e cellulis angustis pellucidis areolata. Thecæ plicatæ.

Folia ovalia, in acumen subulatum inferne canaliculatum superne semitortum producta .... 1. *P. aciculare.*
Folia orbiculari-ovata, breviter apiculata .... 2. *P. ptychocarpum.*

1. P. ACICULARE (*Brid. Musc. Rec.* ii. 2. 158, t. 5. f. 2, Hypnum). Caulis adscendens erectusve, parce vageque dichotomus. Folia dense inserta, squarrosa, ovalia, excavata, longitudinaliter subplicata, inde in acumen subulatum apice semitortum inferne canaliculatum producta, margine basi implana, superne serrulata, apice denticulata, nervis brevissimis fere obsoletis, cellulis angustissimis elongatis pellucidis; perichætialia breviora, apice recurva. Theca in pedunculo nigricante oblongo-cylindracea, plicata, horizontalis, demum curvata, ore deorsum spectante, operculo longe aciculari, peristomii externi dentibus lamina externa per medium divisa, lamina interna latiore intus superne valde trabeculata, peristomii interni processibus latis.

Hab. Ins. Juan Fernandez, *Douglas, Bertero*; Chili, ex *Herb. Montagne*; Valdivia, ad arborum truncos, *Lechler*, n. 620. Ins. Chiloe, *Cuming*, n. 1440. Fuegia, Hermite Island, *J. D. Hooker.*

Caulis 2–6 uncias altus. Folia pallide viridia pallide flavescentia vel straminea vix nitentia. Pedunculus $\frac{3}{4}$–$1\frac{1}{2}$-uncialis.

2. P. PTYCHOCARPUM (*Schwægr. in Linnæa,* 1844, t. 10, Hypnum). Caulis decumbens, gracilis, vage ramosus, elongatus, varie curvatus, ruber. Folia laxe inserta, patula, apice incurva, orbiculari-ovata, breviter apiculata, parum concava, quater plicata, margine latiuscule implana, minute serrulata, subintegerrima, nervis obsoletis, cellulis angustis, basilaribus infuscatis; perichætialia longiora, late obovata, arcte convoluta, apiculo elongato patente terminata. Theca in pedunculo elongato rubro horizontalis, oblonga, plicata, peristomii externi dentium lamina externa per medium divisa, lamina interna latiore, peristomii interni processibus carinatis, ciliis binis æquilongis, in membrana ad dentium medium usque exserta impositis.

Leskea Gayana, *Mont. in Ann. Sc. Nat.* ser. 3. iv. 95, *et in C. Gay, Fl. Chili, Crypt.* t. 3. f. 4.

Hab. Chili, ex *Herb. Montagne.*

Caulis 2–4 uncias longus, cum foliis diametro vix linearis. Folia viridia, pallide straminea vix nitida. Pedunculus unciam altus.

103. PLEUROZIUM, Sulliv. Musc. Un. St. 68.

Musci caulibus elongatis, rubris, paraphyllis inspersis deficientibusve. Folia lata, brevia, imbricata, ad apices caulium et ramorum in gemmas congesta, nitida. Thecæ longe pedunculatæ, arcuatæ.

1. P. SCHREBERI (*Willd. Prodr. Fl. Berol.*, Hypnum). Caulis ruber, pinnatim ramosus. Folia appresse imbricata, late oblongo-ovata, obtusa, cochleariformi-concava, apice cuspidato-complicata, basi contracta, nervis brevibus, marginibus apice subcrenulatis basi recurvis, cellulis angustis basi ad angulos abbreviatis subquadratis incrassatis aurantiacis; perichætialia elongata, erecta, arcte convoluta, breviacuminata. Theca in pedunculo elongato purpureo oblonga, arcuata, horizontalis, operculo conico acuminato, peristomii dentibus subulato-attenuatis, intus trabeculatis, interni processibus hiantibus, ciliis singulis appendiculatis interjectis.

Hab. Andes Bogotenses, Bogota, in monte Serrato (9600 ped.), *Weir*, n. 358. Andes Quitenses, *Jameson*, in monte Pichincha, *Spruce*.

Rami erecti, 3–6-unciales. Folia straminea, nitida.

This elegant species, in its habit and thin, shining, and almost nerveless leaves, stands apart from the numerous groups of Hypnoid mosses, its nearest affinity being with *H. Oakesii*, Sulliv., of North America and Europe, and thus approaching to *Pleurozium splendens.*

2. P. EHRENBERGIANUM (*C. Müll. in Bot. Zeit.* 1856, 458, Hypnum). Dioicum, latissime cæspitosum, procumbens, vage ramosum, stramineum, rigidum, ramis longis brevibusque pro more curvatis. Folia caulina dense conferta, ramulos teretes sistentia, humore laxe erecto-patentia, ramulos turgentes efficientia, splendentia, e basi decurrente laxe reticulata late ovata breviter acuminata, acumine brevissimo obliquo terminata, subcochleariformia concava, e basi usque ad medium revoluta parum longitudinaliter plicata, breviter binervia, apice denticulata, e cellulis angustissimis linearibus pallidis areolata, subscariosa; perichætialia multo robustiora, externa minuta late ovato-rotundata obtusissima, margine erecta, enervia, integerrima, interiora sensim acuminata et plicata, intima e basi longe vaginantia plicata laxe elongate reticulata enervi in acumen longissimum pro more valde reflexum vix denticulatum producta, ante acumen grosse serrata et irregulariter dentata. Theca in pedunculo elongato rubro lævi erecta, magna, turgide ovalis, brevicolla, macrostoma.

Hab. Mexico, *Ehrenberg.*

Operculum non vidi, peristomium imperfectum. Ex habitu *Hypno umbrato* aliquantulum simile, locum prope *H. brevirostrum* Ehrh. tenens, e characteribus laudatis facile cognoscendum.—*C. Müll. l. c.*

Tribus XVIII. HYPNEÆ.

104. FABRONIA, Raddi, Brid. ii. 168.

Musci perpusilli. Folia nitida, sæpe dentato-ciliata. *Habitatio* ad arborum corticem et in rupibus.

Flores monoici.

Folia ramea ovata acuminata, margine dentibus elongatis ciliiformibus serrulata, viridia .... 1. *F. Jamesoni.*

Folia ramea ovata acuminata, margine denticulis brevibus ciliata, viridia. 2. *F. andina.*

Folia ramea ovata, piliformi-acuminata, margine dentata ciliato-dentatave, flavescentia .... 3. *F. Lindigiana.*

Folia ramea ovata, in acumen angustum producta, margine integerrima vel plus minus distincte serrulata .... 4. *F. polycarpa.*

Folia ramea ovata, acuminata, in pilum breviusculum producta, margine ciliis fimbriata .... 5. *F. macroblepharis.*

Folia ramea ovata ovato-oblongave, acuta, integra. 6. *F. longidens.*

Flores dioici .... 7. *F. nivalis.*

1. F. JAMESONI (*Tayl. in Hook. Lond. Journ.* vii. 197). Folia ramea acumine elongato integerrimo, nervo infra medium evanido, cellulis basi quadratis, superioribus elongatis laxiusculis; perichætialia erecta, ovata, acuminata, nervo longiore diviso, marginibus denticulatis. Theca obovata, erecta.

Hab. Andes Quitenses, in monte Pichincha ad arbores, *Jameson.*

F. macroblephari ex icone similis, folia autem distincte nervata.

2. F. ANDINA (*Mitt.*). Folia caulina rameaque patentia, laxe imbricata, in acumen elongatum angustum læve producta, nervo medio evanido, cellulis basi quadratis, superioribus elongatis laxis utriculo obscuris; perichætialia oblongo-ovalia, acuta, ut plurimum enervia, denticulata subintegerrimave, pallida. Theca ovalis, ore æquali interdum obliquo, collo sensim attenuato, operculo conico breviapiculato, peristomii dentibus fuscis punctulatis.

Hab. Andes Quitenses, locis Baños, Pallatanga, Guayrapata, &c., *Spruce;* etiam in monte Cayambe, *Jameson.* Ins. Chiloe, *Lobb.*

Folia glauco-viridia, apicibus pallidis nitentibus.

A *F. Jamesonii* diversa videtur foliis dentibus brevioribus ciliatis et perichætialibus vel enervibus vel tenuius nervatis.

3. F. LINDIGIANA (*Hampe in Linnæa,* xxxi. 526). Folia undique imbricata, apice patula, obscure seminervia, cellulis inferioribus quadratis, superioribus rhomboideis elongatisque, interstitiis angustis opacis, tota chlorophylloso-viridia, transparentia flavescentia; perichætialia oblongo-ovata, apice fimbriata, acumine intermedio producto, enervia. Theca sub-

pyriformi-ovata, ore suberecto, operculo subplano apiculato, peristomii dentibus nigrescentibus erectis.

Hab. Nova Granata, Bogota, La Penna, ad corticem (2700 metr.), *Lindig*, n. 2084.

Intense rufescens, sericeo-nitens.

Species ut videtur ex verbis Hampeanis supra datis a *F. Jamesonii* et *F. andina*, præcipue colore, diversa.

4. F. POLYCARPA (*Hook. Musc. Exot.* t. 3). Folia caulina laxa, ovato-lanceolata, rameaque appressa imbricata, nervo ultra medium evanido, sæpe obtuse carinata, cellulis basi pluribus quadratis, superioribus oblongis ovoideisve; perichætialia late ovata, acuminata, tenuinervata, convoluta. Theca obovata, operculo conico curvirostro.

F. Gardneriana, *C. Müll. Syn.* ii. 34.

Hab. Andes Peruvianæ, ad Tarapoto et Tavalosos, ubi ad saxa ut etiam ad *Crescentiæ* corticem viget (1500–3000 ped.), *Spruce*, n. 1370; Mendoza, *Gillies*; Brasilia, *Gardner*, n. 72; in prov. Parana Fazenda de Tucanduva ad arbores (2000 ped.), *Weir*, n. 21; Montevideo, *Gibert*, n. 660.

Folia viridia, vel integerrima vel præsertim versus ramorum apices plus minus distincte denticulata sic ut in speciminibus originalibus Humboldtianis observaretur.

5. F. MACROBLEPHARIS (*Schwægr.* t. 247). Folia margine ciliis dimidiam folii latitudinem fere æquantibus filiformibus continuis nec lobatis fimbriata, pellucida, pallide viridia, enervia, cellulis elongatis laxiusculis; perichætialia ovali-acuminata. Theca minute ovata, apophysi exigua, operculo conico oblique rostrato.

Hab. Brasilia.

Species si folia vere enervia satis distincta, si adsit nervus a *F. Jamesonii* vix diversa. Nervus ab auctoribus sæpe prætervisus est.

6. F. LONGIDENS (*Duby, Choix Crypt. Exot.* t. 4. f. 1). Repens, prostrata, pusilla, obscure viridis, opaca, ramis filiformibus gracilibus adscendentibus incurvatis angustis subsimplicibus 4–5 millim. longis. Folia laxe imbricata erecto-patula, nervo fere usque ad apicem producto, cellulis quadratis admodum regularibus margine latioribus, basilaribus similibus; perichætialia duplo triplove majora, subhyalina, ovato-lanceolata, acuminata, integra, cellulis superioribus elongatis cymbiformibus, inferioribus late quadratis diaphanis, omnia papillata. Seta erecta, 3–4 millim. alta, siccitate tortilis. Theca cylindrica, ovata, operculo umbonato brevi conico-rostellato, rostro brevi obtuso recto aut obliquo, peristomii dentibus 16 longis thecam claudentibus late cuneatis flavescentibus teneris punctatis margine tenuissime trabeculatis linea dorsali vix perceptibili, mox integris mox basi fissis compressione in 2 partes dissociatis; calyptra cuculliformis, straminea, angusto-conica, thecam totam obtegens.—*Duby, l. c.*

Hab. Patagonia australis, Entrerios, ad truncos, *Claraz*.

7. F. NIVALIS (*Mont.*). Folia ramea ovato-lanceolata, in acumen an-

gustum producta, marginibus remote denticulatis, nervo infra medium evanido, "cellulis pallidis pellucidis utriculo tenero repletis. Theca in pedunculo longiusculo, ovato-oblonga vel pyriformis," operculo convexo rostrato, rostro tenui incurvo.

Hab. Andes Boliviæ, prope Cochabamba, *D'Orbigny*. Andes Quitenses, *Jameson* ex *Mont.*

Species a frustulo Jamesoniano a cl. Montagne mihi benevole tradito *F. andinæ* simillima est, et nisi florescentia vix diversa.

105. ANACAMPTODON, Brid. ii. 224.

A. CUBENSIS (*Sulliv. in Proc. Amer. Acad.*, Fabronia). Monoicus; caulis repens, intricatus, radiculosus, ramis brevibus. Folia caulina sparsa, patentia, ovato-lanceolata, integerrima, nervo percurrente, cellulis basi subquadratis, superioribus suboblongis prosenchymaticis pellucidis, ramea subcompressa; perichætialia majora, erecta, ovali-lanceolata, nervo tenui. Theca in pedunculo pallido obovata, fusco-viridis, operculo "conico acuto," peristomii externi dentibus per paria cohærentibus, interni "ciliis octo filiformibus."

A. maynensis, *Spruce, Cat.* 18.

Hab. Fl. Negro, prope pagum San Carlos, *Spruce*, n. 1369. In radicibus Andium Peruvianarum ad Tarapoto (1500 ped.), *Spruce*, n. 1369 *b.* Cuba, *Wright*, n. 66.

Caulis viridis, repens, ramis 1½-linearibus. Folia viridia. Pedunculus 2-linearis.

Habitu cum *A. splachnoidi* et *A. Fortunei* Mitten omnino convenit, statura minor.

106. DIMERODONTIUM.

Musci humiles, graciles. Folia parva, obscure viridia, lateralia paululum majora. *Habitatio* in locis ripariis?

Folia latissime cordato-ovata, acuta acuminatave ..	1. *D. pellucidum.*
Folia late ovata, acuta obtusave	2. *D. mendozense.*

1. D. PELLUCIDUM (*Hook. in lit.*, Leskea; *Schwægr.* t. 292, Sclerodontium). Monoicum; caulis repens, ramis brevibus. Folia patentia, apice integerrima parceve minute serrulata, nervo crassiusculo percurrente, parum concava, marginibus inferne planiusculis, cellulis basi pluribus rotundatis, superioribusque ovalibus utriculo repletis obscuriusculis; perichætialia erecta, interna oblonga acuminata, nervo tenui indistincto medio evanido. Theca in pedunculo sublævi ovali-cylindracea, æqualis, operculo conico breviter oblique acuminato, peristomio dentibus plus minus fissis punctulatis, lamina interna nulla.

Hab. Andes Chilenses, Mendoza, *Gillies in Herb. Hooker.*

Folia caulina iis *Leskeæ polycarpæ* similia, cellulis autem lævibus.

The name "pellucidum" is misleading; for the colour of the entire moss is dull obscure green, like that of the species of *Leskea.*

2. D. MENDOZENSE (*Mitt.*). Folia subcompressa, nervo sub apice evanido, margine integerrimo, cellulis basi pluribus oblatis quadratisque obliquis, superioribus subrhombeis, ramea apicibus obtusioribus, cellulis obscuris viridibus; perichætialia erecta, ovato-lanceolata, apice latiuscula, obtusiuscula, brevinervata. Theca in pedunculo sublævi ovali-cylindracea, æqualis, operculo conico sicco oblique acuminato, peristomii dentibus brevibus teneris.

Hab. Brasilia, Montevideo, *Gibert*, n. 656, 657. Andes Chilenses, Mendoza, *Gillies*.

Peristomii dentes iis *D. pellucido* breviores, et folia apice lata obtusa.

107. STEREOPHYLLUM, Mitt. in Journ. Linn. Soc. 1859.

Musci caulibus prostratis longe repentibus vel assurgentibus in cæspitem depressum congestis. Folia nitida vel obscura, cellulis basilaribus sæpe uno latere abbreviatis, superioribus elongatis interdum brevibus lævibus vel papilliferis.

Flores monoici.
  Cellulæ læves.
    Folia integerrima.
      Folia lateralia ligulata, acuta, cellulis superioribus ellipticis incrassatis .... 1. *S. radiculosum.*
      Folia lateralia ovato-ligulata, angulo obtuso terminata, cellulis superioribus ovoideis limitibus latiusculis. 2. *S. brevipes.*
      Folia lateralia late oblongo-ovalia, apice rotundata obtusa, cellulis superioribus angustis .... 3. *S. obtusum.*
      Folia media elliptico-ovata acuminata, cellulis superioribus ellipticis elongatis, parietibus angustis...... 4. *S. peruvianum.*
      Folia media ovato-lanceolata, anguste acuminata, cellulis superioribus elongatis angustis .... 5. *S. seminerve.*
      Folia media oblonga, breviter acuminata, elongate laxiuscule areolata .... 6. *S. contorte-operculatum.*
      Folia lateralia elliptico-ovata, cellulis superioribus elongatis angustis. 7. *S. leucostegum.*
    Folia superne serrulata.
      Folia anguste ovato-lanceolata, ob marginem valde revolutum biplicata .... 8. *S. ruderale.*
      Folia lateralia ovato- vel subelliptico-ligulata acuta. 9. *S. cultelliforme.*
  Cellulæ papilliferæ.
    Folia integerrima .... 10. *S. papilliferum.*
    Folia apice parce serrulata.......... 11. *S. cubense.*
Flores dioici .... 12. *S. chlorophyllum.*

1. S. RADICULOSUM (*Hook. Musc. Exot.* t. 51, Hookeria). Folia appressa, sursum patentia, media ovato-ligulata, apice plana acuta, inferne concava, lateralia magis ligulata, nervo crassiusculo ad $\frac{1}{3}$ evanido, cellulis basi ad angulos pluribus oblatis rotundatisque; perichætialia parva, obovata, subito in acumen lanceolatum subserrulatum contracta. Theca in pedunculo gracili ovalis, inclinata, operculo conico-acuminato, peristomii interni ciliis rudimentariis.

Hab. Ins. Jamaica, *Wilds.* Andes Peruvianæ, prope Tarapoto (1500 ped.), *Spruce*, n. 1314. Brasilia Tropica, *Burchell.* Venezuela, Caripe, *Humboldt et Bonpland*; Caracas, *Moritz.*

Caulis parce ramosus, procumbens prostratusve, uncialis. Folia straminea viridia subnitentia. Pedunculus $\frac{1}{2}$-uncialis. Theca parva.

2. S. BREVIPES (*C. Müll. Syn.* ii. 232, Hypnum). Folia appressa, planiuscula, media ovalia obtusa, lateralium nervo sub apice evanido, cellulis basi pluribus rotundatis oblatis chlorophyllosis; perichætialia apicibus lanceolatis subserrulatis. Theca in pedunculo brevi erecta, ovalis, ore coarctato, operculo brevissime conico-rostellato.

Hab. Brasilia, ad Rio Janeiro, *Beske*; Sierra dos Orgaos, *Bunbury in Herb. Hook.*

S. radiculoso simile, sed folia arctius appressa, obtusiora.

3. S. OBTUSUM (*Mitt.*). Folia conformia, nervo ultra medium producto interdum furcato, cellulis superioribus oblongis ellipticis inde angustis, basi ad angulos pluribus parvis quadratis chlorophyllosis; perichætialia ovata, acuta, superne serrulata. Theca in pedunculo breviusculo suberecta, ovalis, inæqualis, operculo conico-acuminato, peristomii interni ciliis subnullis.

Hab. Andes Peruvianæ, ad Tarapoto saxicola (2000 ped.), *Spruce*, n. 1313. Brasilia Tropica, *Burchell.*

Statura *S. radiculoso* paululo minus, habitu simillimum. Folia straminea fuscescentia subnitentia.

4. S. PERUVIANUM (*Mont. Voy. Bonite, Crypt.* t. 150. f. 2, Hypnum). Folia appressa, nervo medio evanido, cellulis basi quadratis per folii latitudinem dispositis subchlorophyllosis, lateralia angustius acuminata, basi uno latere cellulis quadratis pluribus majoribus; perichætialia ovata. Theca ovalis inæqualis, operculo conico acuminato.

Hab. Guayaquil, ad ligna emortua, *Gaudichaud*, ex *Montagne.*

Statura habituque *S. lineostego* simillimum, sed cellulis foliorum latioribus et folia appressa.

5. S. SEMINERVE (*Kunze in Pöpp. Pl. Chil. exs.*, Leskea). Folia media ovato-lanceolata, anguste acuminata, nervo medio evanido, cellulis basi pluribus quadratis, per folii latitudinem dispositis, lateralia basi uno latere cellulis majoribus; perichætialia late ovali-acuminata, nervo tenui. Theca in pedunculo brevi erecta, æqualis, operculo conico acuminato, peristomii interni ciliis nullis.

Hab. Chili, ad arborum corticem, ex *Montagne*; Colchaque, *Herb. Hooker.*

Habitu et structura cum speciebus alteris hujus gregis conveniens.

6. S. CONTORTE-OPERCULATUM (*C. Müll. Syn.* ii. 682, Hypnum). Cæspites dense prostrati, deplanati, pallide virides; caulis arcte adhærens, flexuose repens, dichotome divisus, longiusculus, anguste complanatus. Folia siccitate maxime patula, remotiuscula, subcontorta, adscendentia, madore planissima, appressa, e basi angustiore vix complicata igitur subasymmetrica, e cellulis alaribus laxiusculis pellucidis chlorophyllosis reticulata, virescentia, nervo unico dimidiato; perichætialia minora, lanceolata, longius acuminata, appressa, pellucidiora, laxius reticulata, nervo sæpius obsoleto. Theca in pedunculo elongato intense fusco lævi tortili tenui erecta, angustissime cylindrica, longiuscula, intense fusca, sicca cartilaginea, exannulata, operculo subulato contorte obliquo; peristomii dentes externi angusti rubiginosi fragiles, interni breves angustissimi subciliiformes lutei, ciliis singulis rudimentariis vix conspicuis.—*C. Müll. l. c.*

Hab. America centralis, Costa Rica, in regione montosa (5000–8000 ped.), *Œrsted.*

S. seminervi simili notis designatis, et ab omnibus congeneribus operculo contorte obliquo, primo visu differt. Habitus *Hypno denticulato* haud dissimilis.—*C. Müll. l. c.*

7. S. LEUCOSTEGUM (*Brid.* ii. 333, Leskea). Folia surrecta, patentia, media ovata acuminata concava, margine planiusculo, nervo ultra medium evanido, cellulis basi ad angulos pluribus quadratis, lateralia angustiora asymmetrica, basi uno latere cellulis majoribus quadratis pellucidis spatium totum intra marginem et nervum occupantibus; perichætialia erecta, e basi oblonga lanceolata, acuminata, nervo brevi. Theca ovalis, subhorizontalis, inæqualis, operculo conico-acuminato, peristomii externi dentibus apice subulatis trabeculisque internis asperulis, interni ciliis singulis processibusque subæqualibus, superne punctulatis.

Hypnum saxatile et H. subflavum, *Hook. et Wils. in Hook. Lond. Journ.* iii.

Hab. Ins. Porto Rico, *Bertero*; Cuba, *Herb. Meissner.* Fl. Amazon, prope Santarem in lignis arborumque radicibus, *Spruce,* n. 1315; fl. Orinoco, ad taractam Maypures in saxis humectatis, *Spruce,* n. 1316. Brasilia, Sierra de Araripe ad arbores, *Gardner,* n. 121.

Species et habitu et statura præcedentibus similis, folia autem surrecta acuminata.

8. S. RUDERALE (*Brid.* ii. 585; *C. Müll. Syn.* ii. 352, Hypnum). Caulis repens, ramis tenellis brevibus angustis viridibus. Folia dense imbricata, suprema vix secunda, stricte acuminata, nervo ultra medium evanido, cellulis angustis longiusculis pellucidis, alaribus perfecte quadratis laxiusculis pellucidis multis mollibus parvulis.—*C. Müll. l. c.*

Hab. Ins. Hispaniola, in ruderatis, *Poiteau.*

Species distincta quidem, sed ob specimina valde incompleta herbarii Bridelii sedem certe non occupans. E structura folii interna *S. leucostego* affine.—*C. Müll. l. c.*

9. S. CULTELLIFORME (*Sulliv. in Proc. Amer. Acad.* 1861). Folia appressa, media ovali-elliptica, lateralia decurva, nervo ultra medium evanido, cellulis basi pluribus quadratis chlorophylloso-obscuris, superioribus angustis elongatis subsinuosis; perichætialia ovata, acumine lanceolato serrulato. Theca inclinata, " operculo conico longius rostrato."

Hab. Andes Peruvianæ, Tarapoto, ad rivulum Shillicaio (1500 ped.), *Spruce*, n. 1313*; ins. Cuba, *Wright*, n. 126, et ex *Herb. Montagne.*

Folia subnitida. Habitu omnino præcedentibus etiam foliorum basis structura conveniens, cellulis autem superioribus longioribus.

10. S. PAPILLIFERUM (*Mitt.*). Folia subappressa, media ovata acuta concava, nervo medio evanido, cellulis basi pluribus quadratis chlorophyllosis, per basis totam latitudinem dispositis, superioribus elliptico-elongatis, nonnullis papilliferis, lateralia ovali-elliptica, subacuminata, cellulis basi uno latere copiosioribus majoribus quadratis; perichætialia erecta, ovali-acuminata, integerrima, brevinervata. Theca ovalis, inclinata, operculo convexo acumine brevi obtuso, peristomii externi dentibus apicibus internique processibus angustis punctulatis, ciliis nullis.

Hab. Guayaquil, secus fl. Daule, *Spruce*, n. 1317.

Caulis uncialis, repens, radiculosus, cum foliis viridibus subnitidis latitudine lineæ $\frac{2}{3}$ metiens. Pedunculus $\frac{1}{2}$-uncialis.

11. S. CUBENSE (*Mitt.*). Folia appressa, media ovata, lateralia oblongo-ligulata, acuta, nervo crassiusculo infra apicem evanido, cellulis basi ad angulos rotundatis subquadratis oblatisque, ad nervum ellipticis, superioribus omnibus ellipticis ovoideisque, papilla unica medio instructis; perichætialia parva, ovali-lanceolata, subserrulata. Theca in pedunculo gracili, ovalis, inclinata, ore obliquo, peristomii interni ciliis brevibus.

Hab. Cuba, ad arborum radices, *Wright*, n. 105 (*Hypnum Wrightii*).

Species ex habitu omnino cum *S. radiculoso* affinibusque conveniens. Folia vix compressa, longiora, cellulis longioribus areolata.

12. S. CHLOROPHYLLUM (*Hornsch. in Mart. Fl. Bras. Musc.* 89, Hypnum). Folia compressa, media intermediaque ovalia, acuta, concava, integerrima, nervo brevissimo fere obsoleto, cellulis ubique elongatis conformibus, lateralia ovato-ligulata, subarcuata, acuta, nervo furcato distinctiore, cellulis basi uno latere pluribus oblongis rectangulatis majoribus pellucidis flavidis spatium subquadratum inter marginem et nervum occupantibus, superioribus elongatis angustis; perichætialia ovato-acuminata, dentibus paucis majusculis. Theca in pedunculo elongato ovalis, pendula, æqualis, peristomii externi dentibus angustis elongatis subulatis, intus valde trabeculatis, trabeculis apiceque papillis densis asperulis, interni processibus latiusculis carinatis pertusis ciliisque singulis elongatis, in membrana vix ad $\frac{1}{3}$ dentium longitudinis exserta insidentibus.

Hab. Fl. Amazon, prope Pará, *Spruce*; fl. Amazon, *Martius*, ex *Hornschuch*, sub nomine *Hypni auronitentis*. Trinidad, *Crüger*. Brasilia, ad Rio de Janeiro, *Milne in Herb. Hooker*.

Folia nitida, straminea. Habitu et statura *S. radiculoso* simile.

108. HYPNUM, Dill., Hedw.

Musci foliis nitidis vel subobscuris, lævibus vel plicatis, e cellulis elongatis parietibus angustis areolatis. Pedunculi sæpe asperi crassiusculi. Opercula rigida conica vel rostrata. *Habitatio* in arboribus ad saxa et ad terram.

Sect. 1. HELICODONTIUM. *Caulis procumbens ramis assurgentibus erectisve. Folia lævia. Theca erecta inclinatave, operculo rostrato, peristomio interno imperfecto.*

Peduncułus scaber.
  Folia caulina ovata, apice obtusiuscula ...... 1. *H. tenuirostre.*
  Folia orbiculari-ovata, obtusa .... 2. *H. leptodontium.*
  Folia ovata, acuta .... 3. *H. obliquerostratum.*
  Folia late ovata, ramea ovata, plus minus acuta.
  4. *H. capillare.*
Pedunculus lævis.
  Folia caulina lanceolata .... 5. *H. exilissimum.*
  Folia a basi ovata sensim subulato-acuminata. 6. *H. minutum.*
  Folia ovata acuminata .... 7. *H. tenuinerve.*
  Folia ovato-lanceolata vix acuminata ...... 8. *H. Clarazii.*
  Folia ovali-lanceolata sensim acuminata .... 9. *H. lævisetum.*
  Folia ovata acuminata acumine brevi semitorto.
  10. *H. Sprucei.*
  Folia late cordato-ovata breviter acuminata .. 11. *H. conostomum.*
  Folia oblongo-lanceolata sensim in acumen angustum attenuata.
  12. *H. salicicola.*
  Folia ovali-lanceolata ....13. *H. Mittenii.*

Sect. 2. RHYNCHOSTEGIUM. *Caules procumbentes vel adscendentes et arbusculosi. Folia lævia, compressa vel undique æqualia, nervo sæpe in aculeum e latere inferiore folii exstantem producto, cellulis angustis areolata. Theca inclinata horizontalisve, operculo rostrato, peristomio interno perfecto.*

Caulis procumbens.
  Pedunculus lævis.
    Folia integerrima.......................14. *H. Berteroanum.*
    Folia serrulata compressa. Flores monoici.
      Folia late ovata acuminata............15. *H. tenuifolium.*
      Folia ovata acuminata.................16. *H. Sellowii.*
      Folia late ovata longe acuminata, argute serrulata.
      17. *H. huitomalconum.*

Folia ovata acuminata, plerumque implano-complicata.
18. *H. campylocarpum.*
Folia ovata acuta, vix acuminata ......19. *H. complanum.*
Folia ovata acuminata, basi impressa ..20. *H. scariosum.*
Folia subcordato-ovata, acutiuscula vel breve acuminata.
21. *H. subrotundum.*
Folia cordata ....22. *H. tocaremæ.*
Folia ovata acuminata, apice acuto semitorto.
23. *H. Beskeanum.*
Folia ovata acuta, asymmetrica ....24. *H. lamasicum.*
Folia a basi ovata subulato-attenuata ..25. *H. inerme.*
Folia ovata ....26. *H. pendulum.*
Folia orbiculari-ovata acuta obtusiusculave.
27. *H. aquaticum.*
Folia ubique distincte serrulata profunde carinata.
28. *H. leptomerocarpum.*
Folia vix compressa, serrulata, subsquarrosa, latissime cordato-ovata.
29. *H. ulicon.*
Pedunculus scaber ....30. *H. remotifolium.*
Caulis adscendens suberectusve, arbusculoso- vel fasciculatim ramosus. Folia undique æqualia.
Flores monoici........................31. *H. acanthophyllum.*
Flores dioici.
Folia ovato-lanceolata..................32. *H. semitortum.*
Folia cordato-triangularia subulato-acuminata.
33. *H. prælongum.*
Folia a basi late cordato-triangularia subulato-angustata.
34. *H. toxarion.*

Sect. 3. PLEUROPUS. *Caules repentes, ramis fasciculatim ramosis, in cæspitem congestis. Folia plicata sericea. Theca erecta inclinatave, peristomio interno sæpe imperfecto.*

Pedunculus scaber ....35. *H. luteolum.*
Pedunculus lævis.
Flores monoici........................36. *H. tenerrimum.*
Flores dioici.
Folia serrulata ....37. *H. Bonplandii.*
Folia integerrima....................38. *H. congestum.*

Sect. 4. BRACHYTHECIUM. *Caules procumbentes, subpinnatim ramosi. Folia tenera, plicata vel sublævia. Theca inclinata, abbreviata vel longiuscula, operculo ut plurimum conico rarius rostrato, peristomio perfecto.*

Pedunculus lævis.
Flores monoici.
Folia caulina ovata, sensim longe subulata. Theca ovalis.
39. *H. occidentale.*

Folia caulina ovata, sensim subulato-acuminata. Theca cylindracea.
40. *H. Taylori.*

Flores dioici.

Folia oblique ovata, longe acuminata. Theca ovata.
41. *H. prasophyllum.*

Folia oblongo-lanceolata, superne subobliqua.
42. *H. Andrieuxii.*

Folia ovata, in acumen angustum sensim attenuata. Theca ovali-cylindracea ....43. *H. stereopoma.*

Folia late ovato-lanceolata, piliformi-acuminata. Theca oblongo-cylindracea curvata ....44. *H. pseudopiliferum.*

Pedunculus scaber.

Flores monoici.

Folia plicata.

Folia ovata, sensim acuminata. Theca suberecta.
45. *H. suberectum.*

Folia cordato-ovata, sensim subulato-acuminata.
46. *H. pseudorutabulum.*

Folia ovata, sensim acuminata ....47. *H. rutabulum.*

Folia latiuscula, ovato-lanceolata, in acumen strictiusculum latum producta ....48. *H. frigidum.*

Folia ovato-lanceolata, subulato-acuminata, falcata.
49. *H. paradoxum.*

Folia a basi cordata amplectente ovato-acuminata.
50. *H. helvolum.*

Folia ovata acuminata...............51. *H. chrysocladon.*

Folia e basi cordato-ovata acuminata ..52. *H. pseudo-lutescens.*

Folia lævia.

Folia ovata, concava, subito in acumen breviusculum angustum curvatum producta ....53. *H. subpilosum.*

Folia cordata longe acuminata serrulata. 54. *H. lævifolium.*

Folia ovata acuta ovato-lanceolatave integerrima.
55. *H. plumosum.*

Sect. 1. *Helicodontium*, Schwægr. iii. ii. 2.

Flores, forsan in speciebus omnibus, monoici.

1. H. TENUIROSTRE (*Hook. in lit.*, Leskea; *Schwægr.* t. 293, Helicodontium). Caulis vage ramosus. Folia patentia, nervo ultra medium producto, marginibus apice subcrenulatis, cellulis ad angulos basilares pluribus quadratis, superioribus omnibus ovoideis pellucidis; ramea compressa, ovalia, obscuriora, marginibus minute subserrulatis; perichætialia erecta, ovato-acuminata ovato-lanceolataque, enervia, subintegerrima. Theca in pedunculo rubro ovalis, æqualis, operculo conico oblique tenuirostrato, peristomii externi dentibus flavis intus trabeculatis, interni pro-

cessibus angustis carinatis quam dentes longioribus, in membrana ad tertiam eorum longitudinis exserta impositis.

Helicodontium tarapotense, *Spruce, MS.*

Hab. Andes Peruvianæ, in saxis arboribusque rivuli Shillicaio inundatis (1500–2000 ped.), *Spruce,* n. 1404. Andes Chilenses, Mendoza, *Gillies in Herb. Hooker.*

Caulis uncialis, procumbens. Folia obscure viridia. Pedunculus 4–5-linearis.

Icon Schwægricheni plantam e magnitudine naturali satis auctam ostendit, cæteroquin bona est.

2. H. LEPTODONTIUM (*Mitt.*). Caulis repens, ramosus. Folia subcompressa, basi contracta, nervo ultra medium evanido, subintegerrima, cellulis basi ad angulos quadratis, reliquis oblongis ovoideisve, ramea conformia, cellulis utriculo obscuris viridibus; perichætialia erecta, ovali-lanceolata, enervia. Theca ovalis, erecta, æqualis, operculo conico subulato curvirostro, peristomii dentibus subulatis teneris intus lævibus, processibus æquilongis angustis carinatis, in membrana brevi exserta impositis.

Hab. Andes Peruvianæ, ad fl. Huallaga cataractas (1300 ped.), *Spruce,* n. 1407.

Dimerodontio pellucido habitu statura coloreque simillimum, tamen forma foliorum, apicibus rotundatis etiam ad insertionem angustioribus, diversum.

3. H. OBLIQUEROSTRATUM (*Mitt.*). Caulis repens, ramis pluribus brevibus assurgentibus pinnatus. Folia compressa, nervo sub apice evanido, apice dorso prominente, marginibus minute serrulatis, cellulis basi pluribus subquadratis, superioribus suboblongis, ramea apicem versus latiora, cellulis utriculo obscuris viridibus; perichætialia erecta, ovato-lanceolata, acuminata, indistincte nervata. Theca in pedunculo subscabro ovalis, erecta, operculo subulato oblique longirostro, peristomii dentibus flavescentibus subulatis, processibus æquilongis pertusis, in membrana ad $\frac{1}{4}$ dentium longitudinis exserta impositis.

Hab. Andes Quitenses, ad arborum radices prope Baños (6000 ped.), *Spruce,* n. 1405. Peruvia ad Moyobamba, *Mathews in Herb. Hooker.*

Caulis procumbens, elongatus, ramis 2–4-linearibus. Folia obscure viridia. Pedunculus 3–4-linearis.

Habitus *H. tenuirostri,* folia autem acutiora, nervo apice in aculeum exstante, et operculum rostro fere duplo longiore.

4. H. CAPILLARE (*Sw. Prodr. Fl. Ind. Occ.* 141; *Hedw. Musc. Frond.* 4, t. 10, Leskea). Folia patentia, interdum compressa, minute serrulata, nervo ultra medium producto, dorso apice prominente, cellulis basi ad angulos quadratis, superioribus suboblongis utriculo subobscuris; perichætialia oblonga, in acumen sensim producta, serrulata, tenuinervata.

Theca erecta, æqualis inæqualisve, ovalis, operculo conico oblique rostrato, peristomii dentibus intus trabeculatis, processibus æquilongis carinatis pertusis, in membrana breviter exserta impositis.

Hab. Ins. Jamaica, *Swartz*; Cuba, *Wright*, n. 70; Brasilia, Sierra dos Orgaos, *Gardner*, n. 92, Sierra do Registro, *Beyrich*; Fazenda do Fortaleza (2000 ped.) ad arbores, *Weir*, n. 70; in Sierra inter Antonina et Corritiba (1800 ped.) ad rupes humidas, *Weir*, n. 85.

H. tenuirostro simile, folia autem acutiora.

5. H. EXILISSIMUM (*Sulliv. in Proceed. Amer. Acad.* 1861, 286). Folia ramea patula, plana, compressa, ovato-lanceolata, argutius serrulata, nervo medio evanido, cellulis basi ad angulos paucis abbreviatis, reliquis elongatis laxiusculis utriculo obscuris; perichætialia erecta, oblongo-acuminata, serrulata, tenuinervata. Theca ovalis, erecta, æqualis, peristomii interni processibus carinatis dentium longitudinis pertusis.

Hab. Ins. Cuba, ad arborum corticem, *Wright*, n. 94.

6. H. MINUTUM (*Mitt.*). Folia caulina laxa patentia, nervo brevi fere obsoleto, integerrima, cellulis basi ad angulos pluribus quadratis, reliquis ellipticis, ramea subintegerrima; perichætialia lanceolato-acuminata, enervia. Theca ovali-cylindracea, æqualis, erecta, operculo conico, acumine brevi obliquo, peristomii interni processibus angustis carinatis dentes exterioris longitudine æquantibus, in membrana brevi exserta impositis.

Hab. In Andium devexu occidentali, *Jameson*.

Species parva, intricate cæspitosa. Folia viridia. Habitu *H. parvulo* omnino conveniens, statura autem minore.

7. H. TENUINERVE (*Mitt.*). Folia patentia, undique laxe imbricata, caulina serrulata, nervo fere obsoleto, cellulis ad angulos subquadratis, superioribus ellipticis utriculo obscuriusculis viridibus, ramea distinctius serrulata, nervo transparente tenui ad medium producto, cellulis oblongis; perichætialia ovata, longe acuminata, nervo subobsoleto. Theca ovalis, erecta, æqualis, operculo conico oblique rostrato, peristomii processibus tenerrimis hyalinis elongatis appendiculatis.

Clasmatodon parvulus, *Sulliv. in Proceed. Amer. Acad.* 1861, 283.

Hab. Ins. Cuba, ad arborum truncos, *Wright*, n. 65.

Ab *H. parvulo* statura minore, foliis distincte arguteque serrulatis, nervis fere obsoletis et peristomii structura diversum.

8. H. CLARAZII (*Duby, Choix Crypt. Exot.* t. 4. f. 3). Monoicum?, minutissimum, fusco-viridescens, dense intertextum, caulibus tenuissime capillari-filiformibus decumbentibus vage ramosis elongatis, ramis erectis 1–2 ramulis præditis aut simplicibus subfalcatis. Folia in ramis primariis laxa erecto-patentia, in secundariis dense incumbenti-imbricata, subacuminata, in parte superiore integra (etsi dispositione cellularum marginalium serrata appareant), basi vero crenata, nervo basi valido sensim attenuato, in parte superiore evanido, laxe areolata, cellulis basilaribus quadrato-

ovatis, superioribus rhomboideis in series regulares dispositis, minoribus pellucidis; perichætialia multo majora, elongato-acuminata erecta, enervia, cellulis majoribus basi perpendicularibus. Seta 4–5 millim. alta, erecta, aut subincurva, ramos subæquans. Theca suboblonga, suberecta, basi substrumosa, lævis, operculo brevi conico-rostrato, apiculo mox recto mox inclinato, peristomii dentibus externis trabeculatis linea non exaratis diluto-fuscis, interni exteriore paulo longioris ciliis hyalinis apice sæpe bifidis crure uno breviore, remote lanceolatis.—*Duby, l. c.*

Hab. Brasilia australis, ad truncos arborum in insulis et ripis fl. Uruguay, *Claraz.*

Species e descriptione cl. auctoris et ex icone *H. tenuirostri* similis.

9. H. LÆVISETUM (*Mitt.*). Folia compressa, patentia, nervo ultra medium producto apice prominente, marginibus minute serrulatis, cellulis basi pluribus parvis quadratis superioribusque elongatis subellipticis utriculo obscuris viridibus; perichætialia ovali-lanceolata, acuminata, serrulata, tenue nervata. Theca erecta, ovalis; peristomium *H. capillaris.*

Hab. Andes Quitenses, Quito, *Jameson.*

Statura *H. capillari* simile, foliis nitidis.

10. H. SPRUCEI (*Mitt.*). Caulis procumbens, ramis assurgentibus ramosis cæspitem laxam formantibus. Folia compressa, lateralia patentia, planiuscula, nervo ad $\frac{3}{4}$ producta, margine basi reflexa superne serrulata, cellulis angustis elongatis pellucidis, basilaribus congestis obscuris; perichætialia erecta, interna e basi oblonga subulata, apice serrulata, enervia. Theca in pedunculo gracili fusco elliptico-cylindracea, æqualis, inclinata, operculo subulato subrecto; peristomii dentes elongati angusti, basi refracti, apicibus circinato-incurvis, interni processibus æquilongis angustis inferne pertusis in membrana brevi exserta impositis.

Eriodon radicalis, *Spruce, Cat.* 20.

Hab. Andes Quitenses, ad prædium Pallatanga, in arborum radicibus (7000 ped.), *Spruce*, n. 1401,

Rami $\frac{1}{2}$–1-unciales, erecti curvati vel decurvi, cum foliis lineam lati. Folia nitida, viridia stramineaque. Pedunculus 7-linearis. Theca angusta. Peristomium dentibus mox caducis, processibus interni in cono persistentibus.

11. H. CONOSTOMUM (*Mont. in Ann. Sc. Nat.* ser. 3. iv., *et in C. Gay, Hist. Chili, Crypt.* t. 5. f. 2, Eriodon). Late cæspitosum, pallide viride, prostratum, vage pinnatim divisum, compressiusculum, tenerum, ramulis curvulis laxifoliis. Folia laxissime sparsa, patentissima, carinato-concava, tenuiter membranacea, pallidissima, margine infima basi vix revoluto, ubique tenuissime serrulata, nervo tenui ultra medium evanido, cellulis angustissime linearibus, alaribus ad basin vix impressam vix ullis laxiusculis; perichætialia vaginantia, angustiora, magis acuminata, enervia, pellucidius et laxius reticulata. Theca in pedunculo longiusculo tenui lævi purpureo suberecta, elongate anguste cylindrica, arcuata, fusca, exannulata,

operculo turgide conico longissime recte subulato; peristomii dentes externi lineari-lanceolati, capillari-attenuati, longissimi, interni in membrana elata carinato-plicata reticulata tenera longissimi, lineari-lanceolati, capillari-attenuati, carinati, solidi, rugulosi, lutei.—*C. Müll.*

Neckera eriodon, *C. Müll. Syn.* ii. 85.

Hab. Chili australior, ad corticem arborum, Valdivia, Chili, *Gay et Philippi.*

Species, e fragmento ex Herb. Montagne, foliis rameis ovatis acutis margine anguste a basi fere ad medium usque reflexo, pedunculo unciali, theca inclinata subcurvata distincta.

12. H. SALICICOLA (*Spruce*). Caulis repens, ramis ramosis cæspitosis. Folia subcompressa, patentia, concava, nervo medio evanescente, margine planiuscula, integerrima, cellulis angustis ad angulos pluribus quadratis obscurioribus; perichætialia caulinis longiora, erecto-patentia, conformia, nervo subobsoleto, margine subserrulata. Theca in pedunculo elongato rubro erecta suberectave, oblongo-cylindracea, operculo conico-acuminato, peristomii dentibus brevibus, interni processibus æquilongis subulatis angustis carinatis, in membrana usque ad $\frac{1}{4}$ dentium longitudinis exserta impositis.

H. salicinum, *Spruce, Cat.* 21.

Hab. Andes Quitenses, ad Guataxi in salice vetusta unica (7000 ped.), *Spruce,* n. 1408.

Rami $\frac{1}{2}$–1 unciam alti, parce ramosi, cum foliis lineam lati. Folia nitida, stramineo-viridia. Pedunculus 1–7 lineas longus.

H. Sprucei simile, foliis autem integerrimis pedunculo longiore et peristomio diversum.

13. H. MITTENII (*Spruce, Cat.* 21). Caulis repens, ramis adscendentibus ramosis laxe cæspitosis. Folia distichacea, compressa, patentia, caviuscula, nervo ad $\frac{3}{4}$ evanido, margine superne serrulata, cellulis angustis basi ad angulos pluribus parvis quadratis obscurioribus; perichætialia erecta, caulinis dimidio breviora, arcte convolutacea, ovato-acuminata. Theca in pedunculo breviusculo fusco cylindracea, erecta, operculo oblique subulato, peristomii dentibus elongatis angustissimis pallidis, interni processibus capilliformibus, tertia parte brevioribus, in membrana brevissima impositis.

Hab. Andes Quitenses, Guataxi ad arbores pomiferas (7000 ped.), *Spruce,* n. 1403.

Rami 1–1$\frac{1}{2}$-unciales, parum ramosi, latitudine cum foliis 2-lineares. Folia luteo-viridia, nitida. Pedunculus 3-linearis.

Sect. 2. *Rhynchostegium,* Schimp. Bryol. Eur.

14. H. BERTEROANUM (*Mont. in Ann. Sc. Nat.* ser. 3. iv. 89). Folia compressa, late ovata, breviter acuminata, nervo ultra medium producto, cellulis angustis; "perichætialia exserta, longiuscule convolutacea, breviter

acuminata, recta, enervia, cellulis basi laxissimis, superne conflatis, omnibus tenerrimis pallidissimis. Theca in pedunculo longiusculo rubro gracili lævi inclinata, cernuo-ovalis, late annulata, operculo conico brevi; peristomii dentes externi pallidi, apice subpunctulati, integri, interni æquilongi pallidi solidi, breves, ciliis parum brevioribus 2–3 albis subnodosis,"—*C. Müll. Syn.* ii. 243.

Hab. Chili, *Bertero, Pœppig.*

Folia stramineo-viridia, nitida, sicca haud contracta.

15. H. TENUIFOLIUM (*Hedw. Sp. Musc.* t. 75). Folia planiuscula vel paululum concava, nervo usque ad $\frac{3}{4}$ producto, cellulis angustis; perichætialia ovata, subulato-angustata, recurvata. Theca in pedunculo elongato oblonga, horizontalis, operculo rostrato, peristomii interni ciliis binis plus minus elongatis.

H. subclavatum, *Hampe, C. Müll. Syn.* ii. 247.

H. radicale, *Hornsch. in Musc. Sieb.*

H. megapolitanum, *Hook. f. et Wils. Crypt. Antarct.*

Hab. Andes Chilenses, prope Mendoza, *Gillies.* Brasilia australis, Montevideo, *Gibert,* n. 669, 671.

Rami circiter unciam alti, simplices vel ramosi. Folia viridia, straminea, nitida, siccitate vix mutata, haud contracta.

Species in Nova Zealandia, Tasmania et Australia vulgaris.

16. H. SELLOWII (*Hornsch. in Mart. Fl. Bras. Musc.* 79). Caulis ramis vage fasciculatis. Folia serrulata, nervo usque ad medium producto, cellulis angustis areolata. Theca æqualis subæqualisve, flexura pedunculi longiusculi horizontalis.

Hab. Brasilia, *Sellow*; Sierra dos Orgaos, *Burchell*; Montevideo, *Gibert,* n. 658, 670, 674.

17. H. HUITOMALCONUM (*C. Müll. Syn.* ii. 248). Folia basi vix impressa; perichætialia longissime acuminata, laxius reticulata, subdenticulata. Theca in pedunculo longissimo crassiusculo erecta, ob pedunculum arcuato-flexuosum deorsum spectans, longiuscule cylindrica, ore maxime coarctata; peristomium quam in *H. Sellowii* multo robustius et longius, internum valde hians, ciliis binis longis interjectis.

H. serrulatum, *Hornsch. in Musc. Mexic.* n. 1095; *C. Müll. l. c.*

Hab. Mexico, prope Huitomalco, *Deppe et Schiede.*

H. Sellowii simillimum sed robustius, folia multo majora.—*C. Müll. l. c.*

18. H. CAMPYLOCARPUM (*C. Müll. Syn.* ii. 249). Folia caulina a basi vix impressa, valde inæqualia. Theca in pedunculo graciliore angusta, valde arcuata, horizontalis, operculo depresso-conico prominente longe oblique aciculari; peristomium quam in *H. Sellowii* robustius, internum valde hians, ciliis binis brevioribus interpositis.

H. Sellowii, *C. Müll. in Linnæa,* xix. 219; *Hampe, in Linnæa,* xx. 85.

Hab. Venezuela, Caripe, *Moritz,* n. 77.

H. Sellowii simillimum.—*C. Müll. l. c.*

19. H. COMPLANUM (*Mitt.*). Caulis elongatus, ramis pluribus fasciculatim divisis ramosus. Folia ramea compressa, subcomplanata, fere omnia distichacea, patentia, margine minute serrulata, nervo medio evanido, cellulis angustis elongatis, basilaribus paucis brevioribus obscurioribus; perichætialia erecta, ovata, convoluta, subulato-acuminata, enervia, serrulata. Pedunculus elongatus.

Hab. Chili, ex *Herb. Montagne* (H. serrulatum).

Rami unciam longi vel breviores. Folia tenuia subnitida.

Species inter affines foliis adeo distichaceo-patentibus compressisque ut rami folia media vix ulla ostendunt primo visu differt. Statura *H. Beskeano* simile, folia sicca autem haud contracta.

20. H. SCARIOSUM (*Tayl. in Hook. Lond. Journ.* v. 65). Folia ramea ovato-lanceolata, basi impressa, nervo supra medium desinente, apice in aculeum exstante, cellulis angustis ad angulos folii paucis latioribus; perichætialia erectiuscula, ovato-lanceolata, subulato-attenuata, subintegerrima. Theca parva, inclinata, sicca curvata, operculo rostrato, peristomii interni ciliis duobus quam processus brevioribus interdum subobsoletis.

Hab. Andes Bogotenses (2800 metr.), *Lindig*, ad viam inter Tipaquira et Pacho in truncis putridis (8000 ped.), *Weir*, n. 170, 189. Andes Quitenses, *Jameson*, in monte Guayrapata etiam ad Baños et Leito (6000–9000 ped.), *Spruce*, n. 1425; in sylva Canelos (3000 ped.), *Spruce*, n. 1425 *b*; in monte Chimborazo (4000 ped.), *Spruce*, n. 1425 *c*; forma robustior in monte Guayrapata (9000–10,000 ped.) et ad Baños (6000–8000 ped.) in arboribus vetustis, *Spruce*, n. 1426; in monte Tunguragua, *Spruce*.

H. megapolitano Europæ ex habitu simile sed minus.

21. H. SUBROTUNDUM (*Hampe in Ann. Sc. Nat.* ser. 5. v. 322). Minus, laxe cæspitosum, prorepens, læte viride, aurescens; caulis compressus, ligno adnatus, ramis pinnatim dispositis subdistiche complanatis, brevibus, laxe foliatis. Folia caulina undique laxe imbricata, patula, ramorum subdisticha, basi uno latere convexo plicata, nervo pallido supra medium evanido, cellulis basilaribus laxis hyalinis, cæteris anguste pentagonis, interstitiis chlorophyllosis, lutescentibus, folia tota pellucida; perichætialia basi convoluta, apice patentia, pallida, late ovato-lanceolata longe acuminata, apice denticulata, enervia, cellulis laxioribus pentagono-elongatis hyalina. Seta gracillima adscendens subuncialis, apice incurvata, parum incrassata. Theca parva, obovata, sub ore constricta, deoperculata suburceolata, patula, operculoque prominente pallide aureo umbonato-conico-rostrata, foveolato-punctata, rostro concolori thecam subæquante; peristomium patulum, dentibus externis lanceolatis solidis rubris incurvis, internis membrana lutescente, cruribus carinatis lanceolatis acuminatis prominentibus, ciliis binis subulatis brevioribus interpositis; calyptra glabra.—*Hampe, l. c.*

Hab. Andes Bogotenses, Pacho (2000 metr.), in sylvis ad lignum, *Lindig*.

H. rotundifolio Brid. proximum.—*Hampe, l. c.*

22. H. TOCAREMÆ (*Hampe in Ann. Sc. Nat.* ser. 5. v. 322). Minus, laxe cæspitosum, lucide rufescens; caulis gracilis, elongatus, prorepens, pinnatim ramosus, ramis brevibus subdistichis, laxe foliatus. Folia caulina breviora, ramorum subdistiche et laxe disposita, flexuosa, ovato-acuta vel breve acuminata, sursum dense argute denticulata, nervo pallido medio evanescente, cellulis basilaribus elongato-quadratis pellucidis, cæteris dense aggregatis anguste ellipticis conflatis, diaphana; perichætialia ovato-lanceolata acuminata apice denticulata, subenervia, cellulis laxioribus perspicua. Seta sæpe alaris, brevis, gracillima, apice parum incrassata, erecta. Theca parvula, adscendens, oblique urceolata, deoperculata nec mutata, tandem vetusta constricta, operculo prominente umbonato, croceo, rostro pallido, theca punctata rubra breviore; peristomii dentibus externis lanceolatis rubris, internis cruribus carinatis pertusis flavescentibus, ciliis capillaribus interpositis.—*Hampe, l. c.*

Hab. Andes Bogotenses, Tocarema (2200 metr.), in sylvis umbrosis ad radices arborum, *Lindig.*

23. H. BESKEANUM (*C. Müll. in Bot. Zeit.*). Folia subcompressa, patentia, planiuscula, nervo medio evanescente, margine serrulata, cellulis angustis, ramea ovato-lanceolata vix acuminata. Theca brevis, ovata, absque collo distincto, ore magno, operculo longirostro, peristomii interni ciliis binis elongatis.

Hab. Brasilia, Minas Geraës, unde habuit *Hornschuch*; Rio de Janeiro, *Beske*; Sierra dos Orgaos, *Gardner*, n. 124, etiam e Brasilia, *Sowerby.*

Species theca brevi et foliis siccitate contractis *H. Sellowii* similis, sed paululum minor.

24. H. LAMASICUM (*Spruce*). Folia nervo medio evanido; perichætialia erectiuscula, lanceolato-subulata. Theca in pedunculo breviusculo parva, horizontalis, oblonga, inæqualis, operculo curvirostro, peristomii interni ciliis in unum coalitis quam processus brevioribus.

Hab. Andes Quitenses, ad aggeres prope Baños (6000 ped.), *Spruce,* n. 1413; in monte Chimborazo (4000 ped.), *Spruce,* n. 1414. Andes Peruvianæ, prope Tarapoto, præcipue in sylvis planitiei versus Lamas saxicola (1500 ped.), *Spruce,* n. 1412. Brasilia, S. Paulo, *Weir.*

Statura habituque *H. Sellowii* simile, foliis autem vix acuminatis.

25. H. INERME (*Mitt.*). Folia caulina patentia, nervo medio evanido, margine subintegerrima, cellulis ad angulos paucis rotundatis, reliquis elongatis angustis, ramea ovato-lanceolata serrulata; perichætialia a basi lata subelliptica convoluta, breve nervata, sensim subulata, apice parce denticulata, recurva. Theca ovalis, inæqualis, inclinata, operculo subulato, peristomii interni ciliis brevissimis.

Hab. Andes Quitenses, in monte Guayrapata (9000–10,000 ped.), *Spruce.*

Caulis unciam longus, repens, radicans, ramos 3–4-lineares prodens. Folia luteo-viridia. Pedunculus $\frac{1}{2}$ unciam longus.

Habitus *H. scariosi*, sed folia magis subulato-acuminata, nervo apice haud in aculeum prominentem exstante.

26. H. PENDULUM (*Dill. Hist.* t. 43. f. 67; *Brid.* ii. 765). "Surculi tenues, absque ordine ramosi, folia habent minima, ex ovato denticulata, laxe disposita, in sicca opaca nigricantia, in madefacta pellucida, obscure viridia, setæ nigricantes, e perichætio tenui pallido juxta ramulos breves enascuntur capsulas gerentes parvas nigras, tenui annulo et exilibus ciliis cinctas; quædam capsulæ nutabant tantum, reliquæ pendulæ erant; operculum e latiuscula basi in cuspidem exilem albidam sursum flexam desinens."—*Dill. Hist.* 332.

Hab. Patagonia, inter muscos arboreos invenit *Dillenius.*

Caules secundum figuram 1–3 uncias longi, ramis pinnatim dispositis, ½-uncialibus. Pedunculus ½ unciam altus.

27. H. AQUATICUM (*Hampe in Linnæa*, xxxii. 161). Rami plus minus elongati, arcuati, simplices vel ramosi. Folia undique patentia, parum concava, margine serrulata, nervo ultra medium producto, cellulis angustis; perichætialia erecta, ovata lanceolataque, acuminata, enervia, apicibus patentibus. Theca in pedunculo rubro oblonga, inclinata, operculo rostrato, peristomii interni ciliis brevibus.

Hab. Andes Bogotenses, Los Laches et Boqueron, ad saxa in rivulis (2700–2800 metr.), *Lindig*; Boqueron ad saxa rivuli (8600 ped.), *Weir*, n. 292; ad cataractam Tequendama ad arbores (7000 ped.), *Weir*, n. 363; in montibus inter Bucaramanga et Pamplona (8000 ped.), *Weir*, n. 404. Andes Quitenses, Pichincha, *Jameson*; ad fl. Patasa superius in saxis (3000–4000 ped.), *Spruce*, n. 1422; prope cataractam Agoyan (5000 ped.), *Spruce*, n. 1423.

Forma foliorum in speciminibus omnibus constans. An species ab *H. rusciformi* vere distincta?

28. H. LEPTOMEROCARPUM (*C. Müll. Syn.* ii. 354). Folia anguste longe densissime reticulata; perichætialia anguste vaginantia, brevius stricte acuminata, enervia, robustius densius reticulata. Theca minute ovata, ore coarctata, annulata, operculo conico subito maxime oblique rostrato; peristomii dentes externi internis breviores, apice serrulati, interni subrugulosi perforati, ciliis binis rudimentariis.—*C. Müll. l. c.*

Hab. Mexico, *Deppe et Schiede* (*H. megapolitanum*, Hornsch.).

H. megapolitano Europæ simillimum, sed folia angustiora.—*C. Müll. l. c.*

29. H. ULICON (*Tayl.*). Caulis procumbens, elongatus, ramis inordinatis subpinnatim divisus. Folia undique patula, planiuscula, acumine angusto, margine minute serrulata, nervo medio evanido, cellulis angustis areolata; perichætialia a basi oblonga erecta, convoluta, subulata, apice serrulata, nervo brevi indistincto. Theca in pedunculo elongato inclinata, ovali-cylindracea, operculo subulato.

Hab. Andes Bogotenses, prope cataractam Tequendama (7000 ped.), *Weir*, n. 317. Andes Quitenses, in montibus Picillun et Pichincha, *Jameson*; in monte Pichincha (9600 ped.), *Spruce*, n. 1409; in monte Chimborazo (10,000 ped.), *Spruce*, n. 1410; in monte Titaicun, *Spruce*. Andes Peruvianæ, in saxis rivuli Shillicaio inundatis (1500 ped.), specimina sterilia forsan huc pertinentia, *Spruce*, n. 1411.

Caulis tenuis, 2–3-uncialis, vage pinnatim fasciculatimve ramosus. Folia lineam longa, pallide straminea nitida. Pedunculus unciam longus longiorque.

Species foliis undique patulis *Meteoriis* nonnullis subsimilis.

30. H. REMOTIFOLIUM (*Grev.*; *Schwægr.* t. 200). Synoicum. Folia rotundato-ovata, acuta, serrulata, planiuscula, ramea ovata, nervo paulo ultra medium producto, dorso in denticulum prominentem desinente; perichætialia apicibus angustis recurvis. Theca in pedunculo elongato ubique scaberrimo horizontalis, operculo longirostro, peristomii interni ciliis binis brevibus.

H. clinocarpum, *Tayl. Hook. Lond. Journ.* vii. 194.

H. Regnellii, *Hampe*; *C. Müll. Syn.* ii. 447.

H. rugisetum, *Hampe in Ann. Sc. Nat.* ser. 5. v. 342?

Hab. Venezuela, Caracas, *Funck et Schlim.* Surinam, ex *Herb. Dozy et Molkenboer*; Guiana, *Richard.* Andes Quitenses, *Jameson*; in monte Lligua ad terram (8000 ped.), et ad fl. Bombonasa (1500 ped.), *Spruce*, n. 1416; in monte Chimborazo (4000 ped.), *Spruce*, n. 1417; prope Baños, in spelunca et ad saxa secus ostia rivuli Blanco (5000–6000 ped.), *Spruce*, n. 1418, in valle Leito (8000 ped.), n. 1419, in sylva Llalla (8000 ped.), n. 1419 *b*, ad Antombos (5000 ped.), n. 1419 *c*, ad rivulum Cusitagua, prope Patate (8000 ped.), n. 1419 *d*.

Habitu colore staturaque *H. hianti* Hedw. Americæ borealis et Europæ simillimum.

31. H. ACANTHOPHYLLUM (*Mont. in Ann. Sc. Nat.* ser. 3. iv. 90). Folia undique laxe imbricata, ovato-lanceolata, acuta, nervo crassiusculo supra medium desinente subcarinata, margine grossiuscule serrulata; perichætialia erecta. "Theca in pedunculo longiusculo lævi horizontalis, minute oblongo-urceolata, sicca ore constricta, operculo conico oblique longe aciculari."—*C. Müll. Syn.* ii. 298.

Hab. Chili, ad corticem arborum, *C. Gay*, ex *Herb. Montagne.*

Caulis 4–5 lineas alti. Pedunculus 3–4 lineas longus.

Species diminutiva, ex habitu *H. prælongo H. strigoso*que similis.

32. H. SEMITORTUM (*Mitt.*). Dioicum?; caulis arcuatus, pinnatim ramosus. Folia patentia, ovato-lanceolata, apice semitorta, nervo infra apicem dorso in aculeum exstante, margine serrulata, cellulis omnibus elongatis, ramea conformia argutius serrulata.

Hab. Andes Bogotenses, prope cataractam Tequendama (7000 ped.), ad arbores vetustas, *Weir*, n. 321, ex parte.

Caulis unciam longus, ramis ½-uncialibus.

Habitus adspectusque rigidulus *H. strigosi* Americæ septentrionalis et Europæ, gracilius tamen, foliis omnibus acutis.

33. H. PRÆLONGUM (*Dill.* t. 35. f. 15 A, B, C). Caulis procumbens adscendensve, ramis pluribus pinnatim ramosus. Folia in caule primario squarrosa, angulis basi decurrentibus, margine minute serrulata, nervo tenui infra apicem evanido, cellulis angustis ad angulos pluribus latioribus laxis pallidioribus; ramea patentia, cordato-ovata, breviter acuminata, concaviora, margine argutius serrulata, nervo crassiore infra apicem desinente, interdum dorso in aculeum brevem exstante, cellulis firmioribus; perichætialia a basi erecta oblonga, enervia, subulata, recurva. Theca in pedunculo scaberrimo oblonga, horizontalis, demum pendula, collo crassiusculo curvato, operculo longirostro, peristomii interni ciliis tribus.

H. exasperatum, *Hampe in Linnæa*, xxxii. 162.

Hab. Mexico et Surinam, ex *Herb. Dozy et Molkenboer.* Andes Bogotenses prope Bogota, ad rupes humidas (8500 ped.), *Weir,* n. 353. Andes Quitenses, in monte Picillun, *Jameson*; ad cataractam Huandisagua montis Tunguragua (7500 ped.), *Spruce,* n. 1420; in monte Pichincha (10,000 ped.), *Spruce,* n. 1421. Peruvia, in Cordillera, *Lechler.*

Species adspectu variabilis.

All the specimens from South America belong to the same form, which is found also in Britain in rocky streams, growing in situations where it is occasionally inundated; and these differ considerably from the states found on the ground in moist woods, and known as *Hypnum Stokesii*, Turn.

34. H. TOXARION (*Schwægr.* i. ii. 283). Caulis procumbens adscendens erectusve, sæpe inferne simplex, superne fasciculatim pinnatus bipinnatusque, interdum ramis bipinnatim dispositis, ex apice producto descendente radicante prolifer. Folia parva, in caule primario squarrosa, recurva, nervo tenui percurrente, ramea patenti-incurva, ovata, acuminata, concava, margine implana, nervo crassiore, cellulis oblongis limitibus latis, in foliis ramulinis rotundatis; perichætialia majora, oblonga, subulato-angustata, reflexa, nervo supra medium evanido. Theca in pedunculo breviusculo crassiusculo rubro oblonga, horizontalis pendulave, operculo brevirostro, peristomii interni processibus arcte complicatis, angustissime attenuatis, ciliis tribus interpositis brevioribus subliberis vel cohærentibus.

H. implexum, *Kunze*; *Schwægr. in Linnæa*, xviii. t. 9.

H. brachypodium, *C. Müll. Syn.* ii. 445.

H. solutum, *Tayl. in Hook. Lond. Journ. of Bot.* v. 65.

Rigodium Lechleri, *Schimp. in Lechler, Pl. Chil.* n. 629.

Eurynchium striatellum, *Schimp. l. c.*

Hab. Andes Bogotenses, in sylvis supra Pacho et prope cataractam Tequendama ad arbores delapsas putrescentes (6500 ped.), *Weir,* n. 277. Andes Quitenses in montibus Guayrapata et Tunguragua, *Spruce,* n. 1415.

Chili, ex *Herb. Montagne, Pœppig et Philippi.* Ins. Chiloe, *Cuming*, n. 1456, *King et Lobb*; ins. Juan Fernandez, *Douglas.*

Caulis 1–3 uncias altus, rigidus, ramis breviusculis confertis vel prolixis attenuatis. Folia glauco-viridia, fulvescentia, rigida. Pedunculus unciam longus vel brevius.

Sect. 3. *Pleuropus*, Griff. Notul. Pl. As. 468.

Homalothecium et Campylothecium, *Schimp. Bryol. Eur.*

35. H. LUTEOLUM (*Mitt.*). Caulis repens, ramis pluribus congestis. Folia caulina erecto-patentia, e basi lata truncata, triangulari-subulata, ramea stricta, lanceolata, concava, apice plana, nervo supra medium evanido, marginibus inferne planis integerrimis, cellulis oblongo-ellipticis, ad angulos rotundis, omnibus parietibusque latiusculis pellucidis; perichætialia erecta, elongata, lanceolata, subulato-angustata, remote serrulata, nervo subindistincto. Theca in pedunculo rubro scaberrimo suberecta, æqualis, operculo conico-acuminato, peristomii externi dentibus flavis, interni processibus angustis perforatis æquilongis, in membrana ad dentium medium exserta impositis, ciliis nullis.

Hab. Ins. Sti. Vincentis, *Menzies, in Herb. Hook.*

Caulis ½-uncialis, rami 2-lineares. Pedunculus 4-linearis. Folia aureo-virentia, nitida, sericea.

Habitus *H. sericei.*

36. H. TENERRIMUM (*C. Müll. in Bot. Zeit.* 1856). Vage ramosum, laxissime intricatum, tenerrimum, plumose foliosum, flexuosum, lutescens. Folia caulina sicca patentissima, minuta, angustissima, subtilissima, e basi brevi ventricose rotundata concava sensim subulata, stricta, ad subulam canaliculata, enervia vel nervo obsoletissimo brevissimo tenuissimo instructa, margine erecta, e basi usque ad apicem denticulata, ubique e cellulis lutescentibus longiusculis parvis areolata; perichætialia conferta, appressa, e basi longe vaginata pallidissima, elongate et laxiuscule reticulata, enervia, plicatula, in subulam tenerrimam flexuosam producta, ante subulam lacerato-dentata. Theca in pedunculo breviusculo stricto erecta ovalis minuta; peristomium angustissimum, dentibus internis vix hiantibus subulatis lævibus subtilibus, ciliis singulis brevibus.

Hab. Guatemala, in rhizomatibus *Polypodii incani* vagum, *Kegel.*

H. tenuicauli Spruce accedens. E subtilissimis speciebus.—*C. Müll. l. c.*

37. H. BONPLANDII (*Hook. in Kunth. Syn. Pl. Æq.* i. 61, Leskea). Caulis repens, ramis erectis simplicibus fasciculatimve ramosis. Folia triangulari-cordata, inferne excavata, subplicata, subulata, subula planiuscula, nervo medio evanido, margine basi recurva, cellulis angustissimis teneris; perichætialia longiora, a basi ovali subulata, nervis angustissimis. Theca in pedunculo elongato lævi ovali-cylindracea, erecta, operculo longe subulato, peristomii dentibus parvis brevibus, interni processibus brevioribus in membrana impositis.

Hookeria leskeoides, *Hook. Musc. Exot.* t. 55.

Hab. Andes Bogotenses, prope cataractam Tequendama ad rupes (7000 ped.), *Weir*, n. 311, 365. Andes Quitenses, in monte Chimborazo (10,000 ped.), *Spruce*, n. 1396; in saxis ad pedem montis Tunguragua, prope Baños (6500 ped.), *Spruce*, 1394; in monte Pichincha (10,000 ped.), *Spruce*, n. 1395. Peruvia, prope Loxa (1080 hexap.), *Humboldt et Bonpland.*

Folia viridia, subsericea, fulvo-fuscescentia, siccitate plicata. Pedunculus uncialis. Theca lineam longa.

Species ne discrimina prætervisa per orbem calidiorem dispersa, invenitur enim in Africa australi (*H. pseudo-salebrosum* Hampe) in India orientali (*Isothecium nilgiriense* Mont. et *Pleuropus fenestratus*, Griff.) nec non in imperio Sinensi.

38. H. CONGESTUM (*Sw. Prodr. Fl. Ind. Occ.* 142; *Hedw. Sp. Musc.* t. 74). Caulis longiusculus, declinatus, ramis confertissimis simpliciusculis brevibus patentibus teretibus robustiusculis erectiusculis vel declinatis, apice leviter curvatis dilute viridibus nitentibus. Folia caulina longe lanceolata, plicata, subsecunda, nervo ante apicem evanido; perichætialia lanceolata, conniventia. Pedunculi numerosi, erecti, rubri, breves (læves?). Theca minuta, ovata, erectiuscula, rarius e curvatura pedunculi subnutans, fusco-rubra, operculo convexo oblique rostellato saturate rubro; peristomii dentes externi rubri, interni albidi brevissimi.—*C. Müll. Syn.* ii. 358.

Leskea congesta, *Brid.* ii. 323, ex parte.

Hab. Ins. Jamaica, ad truncos vetustos regione temperatiore, *Swartz*; Montserrat, *Herb. Hedwig*.

Sect. 4. *Brachythecium*, Schimp. Bryol. Eur.

39. H. OCCIDENTALE (*Hampe in Ann. Sc. Nat.* ser. 5. v. 314). Folia caulina patentia, ovata, sensim longe subulata, nervo medio evanido, marginibus basi planis per ambitum partis ovatæ serrulata, subula subintegerrima, cellulis ad angulos paucis oblongis ovoideisve, reliquis elongatis angustis, ramea ovato-lanceolata, argutius serrulata; perichætialia erecta, exteriora e basi late ovata subito subulata, enervia, interiora sensim subulata, nervo brevi, apicibus recurvis. Theca inclinata, inæqualis, operculo conico, peristomio normali, ciliis appendiculatis.

Hab. Andes Bogotenses (7000 ped.), prope cataractam Tequendama ad arbores vetustas, *Weir*, n. 321, *Lindig*. Andes Quitenses, in monte Chimborazo, ad saxa sylvarum, *Spruce*, n. 1375.

Caulis uncialis, procumbens, ramis inordinatis subpinnatus. Pedunculus ½-uncialis.

Habitu et statura *H. velutino* Europæ simillimum, foliis caulinis longius acuminatis et pedunculo lævi discrepans.

40. H. TAYLORI (*Mitt.*). Synoicum. Folia crassiuscule imbricata, concava, biplicata, nervo angusto vix ultra medium producto, marginibus

serrulatis, cellulis ad angulos oblongis rectangulatis, superioribus oblongo-ellipticis; perichætialia e basi lata ovata longe capillari-subulata, subintegerrima, secunda, nervo indistincto brevi vel nullo. Theca in pedunculo elongato suberecta, operculo conico, peristomii interni processibus ciliisque singulis binisve dentes longitudine æquantibus, in membrana ad medium producta impositis.

H. conostomum, *Tayl. in Hook. Lond. Journ. Bot.* vii. 194.

Hab. Andes Quitenses, Quito, *Jameson*; Quito, Chilligallo ad arbores vetustas (9500 ped.), *Spruce*, n. 1389; ad aggeres in ascensu monte Pichincha (11,000 ped.), *Spruce*, n. 1390. Bolivia, *Bridges in Herb. Hooker.*

"Cæspites flavidi, supra subappressi. Caules breves repentes fastigiatim ramosi, ramis adscendentibus ½–1-uncialibus simplicibus ramulosisve. Folia densa, erecto-patentia, ovato-ovalia, acumine longo angusto, concava, dorso nervo subimpresso siccando striata; nervo medium attingente apice tenui; margine recurvulo præter ad basin denticulato alis basi subdecurrentibus et rectangulari-areolatis; cellulis cæteris majusculis elongatis rhomboideis; perichætialia longissime filiformi-acuminata, laxe pellucide areolata integerrima vel ad acuminis basin subincisa. Pedunculus ½-uncialis, glaber, capsula suberecta, subcurvula, fere cylindracea, tenuis, symmetrica, operculo subelongato-conico obtuso. Peristomium pallidum, internum processibus carina hiantibus. Cellulæ membranæ basilaris 48."—*Spruce, MS.*

41. **H. PRASOPHYLLUM** (*Hampe in Ann. Sc. Nat.* ser. 5. v. 315). Minus, pulvinatim cæspitosum, repenti-prostratum, tenerum, lutescenti-viride nitens; caulis elongatus, pinnatim ramosus, gracilis, ramis brevibus inæqualibus subattenuatis laxe foliatis. Folia caulina remota, patentia, parce plicata, flexuosa, apice denticulata, pallidiora, nervo flavescente supra medium evanido, cellulis alaribus pentagono-quadratis, interstitiis crassis receptis pellucidis, cæteris linearibus elongatis diaphanis; folia ramorum laxe subdistiche imbricata, parum flexuosa, angustiora, lanceolato-acuminata, magis denticulata, minus diaphana; perichætialia pallida, erecto-patentia, late ovato-lanceolata, longe acuminata, parce denticulata, enervia, cellulis laxioribus diaphana. Seta brevis vix uncialis et brevior, rufescenti-fuscata, adscendens, apice parum incrassata. Theca oblique ovata, curvata, adscendenti-horizontalis vel inclinata, operculo brevi conico obtusiusculo; peristomii dentibus externis lanceolatis rubris valde trabeculatis incurvis, internis membrana lutescente, cruribus carinatis integris erectis ciliis binis interpositis.—*Hampe, l. c.*

Hab. Andes Bogotenses, Tequendama et Chiquinquira (2500–2700 metr.), *Lindig.*

42. **H. ANDRIEUXII** (*Mont.*; *C. Müll. Syn.* ii. 348). Cæspites laxissime cohærentes, humiles decumbentes, amœne lutescentes v. aurescentes; caulis decumbens, multoties dichotome divisus; rami curvuli breves ho-

malophylli robustiores, tenuiusculi. Folia caulina subsecunda, conferta, breviuscula, profunde concava subcomplicata, margine e basi usque ad apicem late revoluto, superne parce dentato, nervo unico dimidiato complicato, cellulis angustissime linearibus pellucidis v. lutescentibus, alaribus multis laxe quadratis pellucidis; perichætialia e basi late vaginante laxissime reticulata, amœne pellucida, enervia vel obsoletinervia, in acumen breve latiusculum acutatum subreflexum attenuata, subintegerrima. Theca in pedunculo elongato purpureo erecta, elongate anguste cylindrica, vix arcuata, aurantiaca; peristomii dentes externi breviusculi rufescentes involuti, interni in membrana altiuscula libera flava laxe reticulata, ciliis singulis latis rudimentariis.—*C. Müll. l. c.*

Isothecium (Entodon) Andrieuxii, *Mont. in litt.*

Hab. Mexico, *Andrieux.*

43. H. STEREOPOMA (*Spruce*). Rami elongati, procumbentes, ramulis pluribus pinnatim divisi. Folia caulina imbricata, nervo tenui supra medium evanido, marginibus ubique tenuissime serratis, cellulis ad angulos paucis quadratis oblongisque, superioribus elongatis angustis hyalinis, ramulina ovata subulato-acuminata concava biplicata, nervo carinata, marginibus superioribus recurvis evidentius serrulatis; perichætialia e basi ovata brevinervata, longe tenuisubulata secunda. Theca in pedunculo elongato inclinata, inæqualis, operculo conico obtusiuscule acuto, peristomii externi dentibus angustis flavidis, intus superne trabeculatis, interni processibus punctulatis, ciliis in unum superne nodulosum conflatis æquilongis, in membrana fere ad dentium medium exserta impositis.

Hab. Ins. Jamaica, *Purdie, Wilds*; Venezuela, Caracas, *Funck et Schlim.* Andes Quitenses, *Jameson*; prope pontem Baños, ad terram in declivibus sylvaticis (6500 ped.), *Spruce,* n. 1382, in montibus Tunguragua (8000 ped.), n. 1388, et Chimborazo (10,000 ped.), n. 1383, ad Antombos, secus fl. Patasa (5000 ped.), n. 1384, prope Quito (9000 ped.), n. 1385. Andes Peruvianæ, prope villam Lamas (2000 ped.), *Spruce,* n. 1386; in lignis prope Tarapoto (2000 ped.), *Spruce,* n. 1387.

Rami graciles, 2–3-unciales. Folia pallida viridia, sericea nitentia. Pedunculus 1-uncialis.

44. H. PSEUDO-PILIFERUM (*Hampe in Ann. Sc. Nat.* ser. 5. v. 324). Dioicum, cæspitosum, prostratum, varie pinnatim ramosum, e basi amorpha fuscata superne sericeo-viride; caulis elongatus, basi laxifolius, superne fronde lanceolata vel vage comoso-pinnatus, ramis teretibus simplicibus vel parce ramulosis dense foliatis attenuatis. Folia dense imbricata, erecta accumbentia, plicata, humida parum patula basi utroque latere replicata pluries longitudinaliter lacunoso-plicata, apice plana superne denticulato-serrata, nervo flavescente ante acumen evanido, cellulis alaribus subquadratis pellucidis, cæteris anguste pentagonis in acumine magis condensatis, folia tota flavescenti-diaphana; perichætialia pallidiora, laxe

imbricata, apice patentia, breviora, late oblongo-lanceolata, subito acuminata, acumine complicato-subulato elongato, integerrima, enervia, cellulis laxioribus nodulosis clausis, basi hyalina, apice diaphana. Seta capillaris, brevis (vix uncialis), glabriuscula, apice parum incurvata incrassata. Theca angusta, operculo prominente crasso conico rostrato, foveolato-punctato; peristomii dentibus externi lanceolato-subulatis rubris incurvis, interni cruribus carinatis demum perforatis æquilongis, luteis, ciliis fugacibus interpositis.—*Hampe, l. c.*

Hab. Andes Bogotenses, Los Laches (2700 metr.), ad lapides, *Lindig.*

H. pilifero proximum.—*Hampe, l. c.*

45. H. SUBERECTUM (*Mitt.*). Caulis procumbens, ramis erectis pinnatim divisus. Folia laxe imbricata, concava, triplicata, nervo ultra medium evanido, margine inferiore recurvo, tenuissime apicem versus argutius serrulata, cellulis ad angulos parvis oblongis, superioribus angustis elongatis, ramea ovata acumine breviore latiora, distinctius serrulata; perichætialia erecta, e basi oblonga lanceolato-subulata tenuinervata subintegerrima. Theca in pedunculo rubro ovali-cylindracea, curvata, inæqualis, operculo conico acuto, peristomii interni processibus dentium longitudine, ciliis singulis dimidio brevioribus, in membrana fere ad medium dentium exserta impositis.

Leucodon scabrisetus, *Tayl.* ?

Hab. Andes Quitenses, in montibus Pichincha et Cayambe, *Jameson,* in monte Pichincha (10,000 ped.), *Spruce,* n. 1376.

46. H. PSEUDO-RUTABULUM (*Hampe in Linnæa,* xxxi. 160). Rami elongati, adscendentes, subplumæformi-pinnati, ramulis attenuatis. Folia caulina laxe imbricata, concava, subplicata, nervo medio evanido, margine serrulata, cellulis basi per folii latitudinem latioribus subobiongis, superioribus angustis elongatis, ramea ovato-lanceolata, acuminata; perichætialia a basi obovata vaginante enervia, longe subulata, apice denticulata, reflexa. Theca oblonga, horizontalis, inæqualis, operculo conico, peristomii interni ciliis æquilongis appendiculatis.

Hab. Andes Bogotenses, Choachi, *Lindig*; ad viam inter Bogota et Fusagasuga in ramis putridis (8600 ped.), *Weir,* n. 178; prope Bogota ad ramos putridos humectatos (8500 ped.), *Weir,* n. 359. Andes Quitenses, Pichincha et Chimborazo, *Jameson.* In sylvis subalpinis montis Tunguragua (10,000–11,000 ped.), *Spruce,* n. 1397; ad pedem montis Tunguragua (7000 ped.), *Spruce,* n. 1398.

Rami 3-unciales, ramulis ½-uncialibus. Folia pallide viridia, straminea, seniora pallide fusca substantia tenera. Pedunculus 1½-uncialis, scaberrimus.

Habitu *H. subpiloso* simile, sed modo magis regulari pinnatum, ab omnibus formis *H. rutabuli* statura graciliore recedit.

47. H. RUTABULUM (*Linn. Sp. Pl.* 1590). Caulis procumbens adscen-

densve, pinnatim vel vage ramosus, interdum arbusculosus. Folia patentia, laxe imbricata, margine superne parum recurva, versus apicem remote serrulata vel fere integerrima, cellulis ad angulos pluribus quadratis, superioribus angustis, nervo ultra medium evanido; perichætialia a basi oblonga erecta, subulata, anguste attenuata, integerrima, recurva, enervia. Theca in pedunculo elongato rubro ovalis, inclinata, arcuata, operculo conico, peristomii interni ciliis binis in unum coalitis, inter processus æquilongos interpositis.

Hab. Andes Quitenses, in monte Guayrapata (9000 ped.), *Spruce*, n. 1399, in valle Leito prope Ambato (8000 ped.), *Spruce*, n. 1400.

Habitus omnino cum speciminibus Europæis conveniens. Folia parum tenuiora, cellulis basilaribus quadratis parum numerosioribus, cæteroquin vix diversum.

Some very incomplete barren specimens of a species possibly distinct from *H. albicans*, under which name it was enumerated in the 'Crypt. Antarct.,' were collected by Dr. Hooker in Hermite Island.

48. H. FRIGIDUM (*C. Müll. in Bot. Zeit.* 1856). Synoicum. Folia secus longitudinem profunde bullato-plicata, concava, margine e basi denticulata, usque ad acumen late revoluta, dentata, nervo tenui elongato evanido, cellulis elongatis subpellucidis, ad alas basilares paucis quadratis laxiusculis pellucidis; perichætialia turgida, interiora e basi latissima vaginante laxe reticulata, enervia, subito in acumen longissimum loriforme capillare flexuosum acute denticulatum producta, infra acumen e serie cellularum longarum hyalinarum unica veluti limbata, superne sinuato plicata. Theca in pedunculo brevi inclinata, turgide ovalis, brevis, subcernua, peristomium internum ciliis singulis pallidioribus brevibus.

Hab. Mexico, in montibus editioribus planitiei editæ in coniferarum sylvis montis vulcanici Itztacuhuatl, *Chrismar.*

H. rutabulo et *glareoso* simile.—*C. Müll. l. c.*

49. H. PARADOXUM (*Hook. f. et Wils. in Hook. Lond. Journ.* iii. 554; *Crypt. Antarct.* t. 155. f. 2). Caulis procumbens, subpinnatim ramosus, ramis depressis. Folia secunda, margine inferne plana, integerrima, in ramis ulterioribus serrulata, cellulis angustis ad angulos abbreviatis; perichætialia erecta, ovata, acuminata, convoluta, enervia. Pedunculus scaber, elongatus. Theca horizontalis, oblonga, operculo conico, peristomii interni processibus pertusis, ciliis binis tribusve æquilongis, in membrana usque ad dentium medium exserta insidentibus.

Hab. Fuegia, Hermite Island, *J. D. Hooker.*

Caulis 1–3 uncias longus, procumbens vel prostratus, ramis ½-uncialibus. Folia viridia fulvescentia, subnitida. Pedunculus subuncialis.

Species formis nonnullis *H. velutini* Europæ solis affinis.

50. H. **HELVOLUM** (*Mont. Syll.* 19, Leskea). Caule primario repente, divisionibus biuncialibus erectis helvolis, ramis pinnatis decrescentibus. Folia caulina patentia, subintegerrima aut vix hic inde denticulata, ramea ovato-lanceolata evidentius et tenuissime denticulata. Pedunculus scaberrimus. Capsula ovoidea primo suberecta, matura inclinata gibbosa, operculo conico-acuminato, acumine obliquo, peristomii externi dentibus lanceolatis dense trabeculatis brunneis, apicibus inter cilia interna longiora pertusa inflexis, nullo ciliolo interjecto.

Hab. Andes Quitenses, *Jameson.*

51. H. **CHRYSOCLADON** (*Hampe in Ann. Sc. Nat.* ser. 5. v. 341). Pulvinatim cæspitosum, prostratum, radicans, lutescens aureo-nitens; caulis subpinnatim ramosus, parum compressus, ramis plus minusve attenuatis. Folia caviuscula, basi parum biplicata, subintegerrima vel cellulis anastomosantibus subdenticulata, nervo lutescente supra medium evanido, cellulis alaribus angulatis pellucidis, interstitiis crassis receptis, cæteris elliptico-linearibus, tota folia lutescenti-diaphana.—*Hampe, l. c.*

Hab. Andes Bogotenses, prope Bogota (2600 metr.), *Cuervo.*

Inter Hypna plumosa *H. læto* Brid. proximum videtur.

52. H. **PSEUDO-LUTESCENS** (*Hampe in Ann. Sc. Nat.* ser. 3. v. 314). Laxe cæspitosum, prorepens, gracile, viridi-lutescens, nitidum; caulis indistincte ramosus, ramis brevibus vel elongatis, attenuatis, ubique modice foliatis. Folia erecta, humida patula, subintegerrima, latere parce revoluto-plicata, nervo flavescente mediotenus evanescente, cellulis basilaribus subquadratis, interstitiis crassis receptis, pellucidis, cæteris anguste ellipticis, condensatis, diaphanis; perichætialia laxe imbricata, apice recurvata, interiora longiora, ovato-oblongo-lanceolata, longe acuminata, flexuosa, nervo obsoleto, cellulis laxioribus lutescenti-diaphana. Seta adscendens, vix uncialis. Theca e basi subcallosa curvato-cylindrica horizontalis, operculo conico acuto; peristomium croceum, dentibus externi lanceolatis solidis, linea media deficiente, apice incurvis, interni membrana flavescens cruribus carinatis integris subæquilongis, ciliis binis capillaribus interjectis; calyptra glabra straminea.—*Hampe, l. c.*

Hab. Andes Bogotenses, Pacho (2000 metr.) in sylvis ad radices arborum, *Lindig.*

Ex habitu *H. læti* Brid. *H. lutescenti* affine ab *H. conostomo* Tayl. foliis integerrimis laxe imbricatis satis diversum.—*Hampe, l. c.*

53. H. **SUBPILOSUM** (*Hook. et Wils. in Hook. Lond. Journ.* iii. 553; *Crypt. Antarct.* t. 154. f. 4). Caulis adscendens arcuatusve subpinnatim divisus. Folia patentia, imbricata, subplicata vel lævia, basi angulis decurrentibus implanis, margine superne serrulata, in acumine integerrima, ramea ulteriora ovata, acuta, usque ad apicem serrulata, omnia nervo medio evanido, cellulis angustis, basilaribus ad angulos pluribus brevioribus latioribus; perichætialia a basi erecta oblonga, enervia, arcte convoluta,

acuminata, acumine recurvo. Theca in pedunculo elongato crasso horizontalis, brevis, operculo conico, peristomii interni processibus pertusis, ciliis tribus interpositis, in membrana usque ad dentium medium exserta impositis.

H. subplicatum, *Hampe*.

H. rutabulum, var. 5, *Hook. f. et Wils. Crypt. Antarct.*

Hab. Fuegia, Hermite Island, Cape Spencer, *J. D. Hooker*; Sandy Point, *Lechler*; ins. Falkland, *J. D. Hooker*, *Capt. Abbott.*

The specimens from the Falkland Islands differ in appearance from those collected in Hermite Island, having larger leaves; but beyond this there seems no essential difference.

54. H. LÆVIFOLIUM (*Mitt.*). Folia caulina concava, lævia, basi angulis decurrentibus, nervo medio evanido, marginibus subserrulatis, cellulis basi per folii latitudinem oblongis, superioribus longioribus angustioribus, ramea imbricata ovata brevius acuminata, versus apicem argutius serrulata; perichætialia ovato-acuminata, apicibus latis divergentibus integerrimis enerviis. Theca in pedunculo crassiusculo rubro oblonga, inæqualis, horizontalis, operculo conico acuminato, peristomii interni ciliis singulis lævibus.

Hab. Andes Bogotenses, Boqueron, prope Bogota (8600 ped.), ad lapides, *Weir*, n. 295.

Cæspitosum. Caulis uncialis, ramis ½-uncialibus subpinnatim ramosus. Folia straminea et sicca et humida lævia. Statura *H. plumoso* simile, sed *H. subpiloso* quoad forma foliorum caulinorum affinius, ab aliis speciebus foliis lævibus statim distinguitur.

55. H. PLUMOSUM (*Linn. Sp. Pl.* 1592). Caulis primarius repens, ramis adscendentibus curvatis attenuatis in cæspitem congestis. Folia laxe imbricata, concava, lævia vel parum plicata, margine basi implana superne integerrima, ramea ulteriora apice subserrulata, nervo paullo ultra medium evanido, cellulis angustis, basilaribus ad angulos paucis abbreviatis; perichætialia lanceolato-subulata, ultra medium recurva, brevinervata. Theca ovalis, inclinata, operculo conico, peristomii interni ciliis singulis binisve in membrana usque ad dentium medium exserta impositis.

H. asperulum, *Hampe in Linnæa*, xxxii. 159.

H. duriusculum (*Schimp.*), *C. Müll. Syn.* ii. 426.

Hab. Mexico, *Ruiz et Pavon*; Cerro de Los Nabajos, *Ehrenberg*. Andes Bogotenses, Boqueron, prope Bogota (2800 metr.), *Lindig*, ad saxa rivulorum inter Tipaquira et Pacho (8500 ped.), *Weir*, n. 128, 301; in collibus prope Bogota ad rupes udas (8600 ped.), *Weir*, n. 351; ad saxa prope cataractam Tequendama (7000 ped.), *Weir*, n. 364. Andes Quitenses, in monte Carguairazo, in rivulorum saxis (11,000 ped.), *Spruce*, n. 1391; in monte Pichincha (11,000 ped.), *Spruce*, n. 1392 et 1393*b*; ad saxa fl. Pastasa inundata, loco Mapoto, et ad ostia fl. Verde, etiam in monte Titaicun in valle Leito etc. (4000–8000 ped.), *Spruce*, n. 1393; in valle

Leito (9000 ped.), *Spruce*, n. 1393*c*; in monte Chimborazo ad saxa (10,000 ped.), *Spruce*, n. 1393*d*.

Caules ramique statura valde variantes, ut plurimum in cæspites late congesti. Folia viridia fulvo-fuscescentia. Pedunculus unciam longus.

Species per regiones temperatiores orbis terrarum, præcipue ad saxa rivulorum reperta.

109. HYPNODENDRON, C. Müll. Syn. ii. 496, ex parte.

H. MICROSTICTUM (*Mitt.*). Dioicum. Folia lateralia ovata, acuta, in seriebus superioribus minora, omnia margine serrata, nervo percurrente dorso serrato, cellulis elongatis punctulatis; perichætialia a basi parva ovata, nervo longe excurrente subulata. Theca in pedunculo elongato cylindracea, elongata, horizontalis, parum curvata, plicata, operculo subulato.

Hab. Chili, Colchaque, *Herb. Hooker.*

Hypno arcuato, Hedw. Sp. Musc. t. 62, simillimum; pedunculo autem longiore et foliis punctulatis diversum.

110. RHEGMATODON, Brid. ii. 204.

Musci ramis laxe cæspitosis. Folia subobscura, lævia.

R. SCHLOTHEIMIOIDES (*Spruce*). Monoicus; caulis repens radicans; rami inæquales in cæspitem congesti. Folia patentia, ovato-lanceolata, acuta, medio parum concava, marginibus integerrimis late planis subrecurvis, nervo crassiusculo medio evanido, cellulis ovalibus lævibus pellucidis, ad angulos paucis rotundatis subobscuris; ramea conformia; perichætialia breviuscula, erecta, oblonga, obsoletinervia, superne dentato-lacera, acumine brevi integerrimo. Theca in pedunculo rubro cylindracea, inclinata, inæqualis, operculo conico acuminato; peristomii dentes fulvi sicci, interni processus duplo longiores, lati flavidi per carinam inferne fissi inflexi.

Hab. Andes Quitenses, ad arborum cortices, prope Antombos fluvii Pastasa (5000 ped.), *Spruce*, n. 1437.

Caules longe repentes, arcte radicantes. Rami ½–1-unciales, simplices vel ramosi. Folia laxe imbricata, sicca appressa, obscure viridia fulvo-fuscescentia. Pedunculus ¾-uncialis, crassiusculus. Theca fusca. Calyptra pallida, crassiuscula. Peristomii dentium lamina interna angusta.

Species *R. orthostegio* Mont. et *R. declinato* Hook. Indiæ orientalis habitu structuraque omnino conveniens.

111. LESKEA, Hedw., ex parte.

Musci graciles. Folia parva, intense viridia, obscura, siccitate arcte appressa imbricataque. *Habitatio* ad arbores, etiam in rupibus locis umbrosis humidis.

Sect. 1. ANOMOCLADUS. *Rami subsimplices vel inordinate ramosi. Theca inclinata.*

Species unica .... 1. *L. gracillima.*

Sect. 2. EULESKEA. *Rami pinnatim ramosi. Theca erecta.*

Folia e basi lata biplicata rotundato-ovata, subserrulata, subito in subulam recurvam angustam lævem producta.......... 2. *L. teretiuscula.*

Folia ovata, subulato-acuminata, integerrima .... 3. *L. plumaria.*

Sect. 3. PSEUDOLESKEA. *Caulis vel procumbens radicansque vel pinnatim ramosus, paraphyllis sparsis vestitus. Theca inæqualis, inclinata.*

Species unica .... 4. *L. microphylla.*

Sect. 1. *Anomocladus.*

1. L. GRACILLIMA (*Tayl. in Hook. Lond. Journ.* vii. 192). Monoica; caulis procumbens hic illic radicans, ramis brevibus longioribusque immixtis pinnatim ramosus. Folia patentia, ovato-acuminata, nervo percurrente, marginibus integerrimis, cellulis basi ad margines quadratis oblatisque, reliquis ovalibus obscuriusculis, papillis inconspicuis fere lævibus, ramea conformia; perichætialia erecta, ovata, apice breviacuminata, nervata, integerrima. Theca in pedunculo elongato cylindracea, inclinata, subinæqualis, operculo convexo breviter acuminato, peristomii interni processibus angustis ciliiformibus, in membrana brevi impositis.

Hypnum columbicum, *C. Müll. in Bot. Zeit.* 1856, 459.

Anomodon angustatus, *Hampe, MS.*

Hab. Andes Bogotenses, ad cataractam Tequendama (7000 ped.), ad arbores, *Weir*, n. 304. Andes Quitenses, *Jameson*; in monte Guayrapata etiam ad Quito (9000 ped.), *Spruce*, n. 1438; in montibus Guayrapata et Titaicun (9000 ped.), n. 1439, in montibus Chimborazo et Carguairazo (11,000 ped.), n. 1440, in monte Guayrapata ad saxa rivuli Vascun (7000 ped.), n. 1441, prope Patate ad corticem *Pyri mali* (7000 ped.), n. 1438, ad riv. Cusatagua (8000 ped.), n. 1442.

Caulis 1–2-uncialis. Rami longiores circiter 4-lineares, in cæspitem aggregati. Folia viridia obscura. Pedunculus ½-uncialis.

Statura coloreque *L. polycarpæ* Europæ simillimus.

Sect. 2. *Euleskea.*

2. L. TERETIUSCULA (*Mitt.*). Monoica; caulis procumbens, ramulis æquilongis patentibus plumæformi-pinnatus. Folia patentia, e basi late rotundato-ovata, biplicata, marginibus inferne recurvis, superne crenulato-subserrulatis, inde subito in subulam recurvam angustam lævem producta, nervo percurrente, cellulis basi ad angulos rotundatis, reliquis ovalibus

papillis fere obsoletis obscuriusculis; ramea patenti-recurva, rotundato-ovata, acuminata, concava, marginibus planis apice serrulatis; perichætialia elongata, erecta, angusta, linearia, acumine elongato, nervo evanido. Theca in pedunculo elongato cylindracea, subæqualis, erecta, evacua subarcuata, operculo conico, peristomii interni processibus angustis punctulatis obscuris, in membrana brevissima insidentibus; calyptra ad thecæ basin descendens.

Hab. Andes Quitenses ad Baños (6000 ped.), *Spruce*, n. 1466; in monte Tunguragua (7000–8000 ped.), n. 1467, in valle Leito (8000 ped.), n. 1468, in monte Chimborazo (10,000 ped.), n. 1469, in monte Carguairazo (11,000 ped.), n. 1470, in monte Pichincha (10,500 ped.), n. 1471. Quito, ex *Jameson*, *Spruce*, n. 1472, in monte Guayrapata (9000 ped.), n. 1473.

Caulis 1–2-uncialis, radicans, divisionibus nonnullis liberis eradiculosis, ramulis 3-linearibus, eleganter pinnatus. Folia parva, densiuscule inserta, viridia.

L. gracillima gracilior, ramis siccitate foliis teretiuscule imbricatis æqualibus pulcherior.

3. L. PLUMARIA (*Mitt.*). Monoica; caulis procumbens adscendensve, ramulis æqualibus divergentibus, in frondem plumæformem dispositis. Folia patenti-recurva, ovata, subulato-acuminata, concava, marginibus recurvis reflexisve integerrimis, nervo percurrente, cellulis basi ad angulos parvis abbreviatis, reliquis rotundo-ovalibus subobscuris fere lævibus; ramea conformia, apice minute serrulata; perichætialia elongata, interna elliptica, apicibus sensim subulatis patentibus integerrimis, nervo angusto percurrente. Theca in pedunculo breviusculo cylindracea, arcuata, operculo acuminato brevirostrato, peristomii interni processibus angustis perforatis flavidis minutissime punctulatis.

• *Hab.* Andes Quitenses, ad Pangor (10,000 ped.) et Pallatanga (6000 ped.) in ramulis, *Spruce*, n. 1450.

Caulis 2–3-uncialis radicans, vel adscendens liber eradiculosus, eleganter ramulis divaricatis plumæformi-pinnatus. Folia flavo-viridia, fusco tincta. Pedunculus ½-uncialis, flavus. Theca flavo-fusca.

Sect. 3. *Pseudoleskea*, Schimp. Bryol. Europ.

4. L. MICROPHYLLA (*Sw. Prodr. Fl. Ind. Occ.* 142; *Hedw. Sp. Musc.* t. 69). Monoica; caulis procumbens pinnatus. Folia patentia subsecundave, cordata, subulato-acuminata, subplicata, nervo in apice evanido, marginibus subintegerrimis, cellulis parvis rotundatis ovalibusque obscuriusculis lævibus, ramea minora, latius acuminata, subcrenulata; perichætialia erecta.

Hab. Ins. Jamaica, *Swartz*, *Heward*; Cuba, *Wright*, n. 99; Hispaniola, *Bertero*. Andes Peruvianæ, ad cataractas fl. Huallaga (1300 ped.), *Spruce*, n. 1448. Brasilia, S. Catharina, *Pabst*; Sierra dos Orgaos, *Gardner*; Piedade, prope Rio de Janeiro, *Milne*.

112. AMBLYSTEGIUM, Schimp. Bryol. Europ.

Musci graciles vel robustiores. Folia nitida vel obscura. Thecæ longe pedunculatæ, operculis brevissimis. *Habitatio* ad terram humidam, etiam ad ligna et in paludibus.

- Flores monoici.
  - Folia recta.
    - Folia ovata, in acumen elongatum producta, cellulis superioribus elliptico-elongatis .... 1. *A. serpens.*
    - Folia e basi subcordata ovato-acuminata, cellulis ovali-oblongis. 2. *A. radicale.*
    - Folia e basi rotundata lanceolato-subulata integerrima. 3. *A. riparium.*
  - Folia falcata.
    - Folia lanceolato-subulata, superne serrulata.. 4. *A. andinum.*
    - Folia elliptica acuminata.................. 5. *A. fuegianum.*
    - Folia e basi breviter contracta lanceolata, sensim subulata, longe tenuiacuminata plicata .... 6. *A. uncinatum.*
    - Folia lanceolata, sensim longe angustata .... 7. *A. capillaceum.*
- Flores dioici.
  - Folia falcata cordato-lanceolata, sensim acuminata. 8. *A. leitense.*
  - Folia falcata, sensim longe subulato-attenuata, apicibus angustis tortis. 9. *A. longifolium.*
  - Folia falcata e basi late ovata in acumen latum semel vel pluries tortum longum acutiusculum producta ....10. *A. sordidum.*

1. A. SERPENS (*Linn. Sp. Pl.* 1596; *Hedw. Musc. Frond.* 4, t. 18, Hypnum). Folia undique inserta, patentia, nervo infra vel paulo ultra medium evanido, marginibus ubique serrulatis, cellulis basi oblongis; perichætialia erecta, teneriora, late lanceolata, acuminata, nervo latiore. Theca in pedunculo elongato cylindracea, inclinata, arcuata, operculo conico acuto, peristomii interni ciliis sæpe coalitis.

Hab. Andes Quitenses, prope Ambato in stillicidiis (9000 ped.), *Spruce*, n. 1430; ad fl. Guano (9000 ped.), *Spruce*, n. 1434*c*; in saxis fl. Pastasa, prope Baños (5500 ped.), *Spruce*, n. 1435. Andes Peruvianæ, ad cataractam fl. Huallaga, *Spruce*, n. 1434*b*.

2. A. RADICALE (*Beauv. Prodr.* 68, Hypnum). Folia undique inserta, nervo sub apice evanido, marginibus subserrulatis, cellulis basi paulo latioribus; perichætialia erecta, ovato-lanceolata, acuminata, superne subserrulata, nervo lato percurrente. Theca in pedunculo elongato cylindracea, arcuata, operculo conico, peristomii interni ciliis breviter trabeculatis.

Hab. Andes Quitenses ad ramos rivuli Vascun inundatos (7000 ped.), *Spruce*, n. 1434.

3. A. RIPARIUM (*Linn. Sp. Pl.* 1595; *Hedw. Musc. Frond.* 4, t. 3, Hypnum). Folia compressa, patentia, interdum secunda, nervo ultra medium evanido, cellulis basi latioribus oblongis, superioribus elongatis angustis; perichætialia erecta, superne latiora, acuminata, parce dentata integerrimave, nervo validiore. Theca in pedunculo elongato cylindracea, arcuata, inclinata, operculo conico acuto, peristomii dentibus subulatis, processibus latis, ciliis tribus angustis trabeculatis.

Hab. Ins. Cuba, *Wright*, n. 129.

4. A. ANDINUM (*Mitt.*). Folia secunda, nervo ultra medium evanido, marginibus superne serrulatis, cellulis basi pluribus parum latioribus oblongis subquadratisque, superioribus elongatis angustis; ramus fructifer elongatus, foliis imbricatis, inferioribus late ovatis acuminatis, supremis oblongis obtusiuscule acutis, nervo angusto fere ad apicem producto. Pedunculus elongatus, rufus.

Hab. Andes Quitenses, in monte vulcanico Pasto, prope summitatem loco uliginoso, *Jameson.*

A. fluitanti affine et simillimum, sed folia serrulata, cellulis nullis ventricosis, et folia perichætialia haud acuminata.

5. A. FUEGIANUM (*Mitt.*). Folia secunda, apice parce serrulata integerrimave, nervo medio evanido, cellulis basi pluribus abbreviatis parum latioribus oblongis subquadratisque, reliquis elongatis; perichætialia erecta, interna late ovali-acuminata, brevinervata. Theca in pedunculo elongato.

Hab. Fuegia, Hermite Island, *J. D. Hooker.*

A. fluitanti simile, folia autem supra medium subulato-acuminata, basi cellulis ventricosis nullis.

6. A. UNCINATUM (*Hedw. Musc. Frond.* 4, t. 25, Hypnum). Folia caulina appressa, secunda, nervo sub apice evanido, marginibus fere a basi ad apicem serrulatis, cellulis ad angulos majoribus oblongis, reliquis elongatis angustis; perichætialia elongata, erecta, plicata. Theca in pedunculo elongato cylindracea, arcuata, inclinata, operculo conico, peristomii dentibus apice serrulatis, interni ciliis in unum coalitis, articulis nodosis.

Hypnum carguairazense, *Spruce.*

Hab. Andes Quitenses, inter gramina et fruticulos in monte Carguairazo (11,000–12,000 ped.), *Spruce*, n. 1436.

Florescentia monoica vel synoica.

7. A. CAPILLACEUM (*Schimp.*). Folia erecta, appressa, nervo sub apice evanido, marginibus ubique serrulatis, cellulis basi ad angulos pallidis oblongis subventricosis subauriculata, superioribus omnibus elongatis.

Hab. Andes Peruvianæ, in cordillera Sachapata, ad rivulorum margines, *Lechler*, n. 3101.

Caulis 3–4-uncialis, gracilis, ramis paucis pinnatus. Folia appressa, pauca subfalcata, pallide fusca. Habitu *A. fluitanti* et formis ejus gracilioribus simile.

8. A. LEITENSE (*Mitt.*). Rami pinnati. Folia secunda, inferiora cordato-lanceolata, superiora lanceolata, acumine sæpe flexuoso, subplicata læviave, integerrima, nervo latiusculo sub apice evanido, cellulis basi pluribus oblongis brevioribus, ad angulos paucis in auriculo parvo dispositis, superioribus angustis elongatis. Flos masculus gemmiformis, foliis ovatis acuminatis convolutis, antheridiis paucis.

Hab. Andes Quitenses, in palude prope Leito (7500 ped.), *Spruce*, n. 1433.

Rami graciles, 3-unciales, cum foliis lineam lati, ramulis paucis divaricatis gracilibus 3-linearibus. Folia lutea.

Statura *H. filicini*, habitu *A. exanulato* simile sed gracilius, ab *A. adunco* et speciebus ei affinibus, foliis basi latioribus, cellulis angustis parvis brevibus diversum.

9. A. LONGIFOLIUM (*Wils.*). Folia secunda, nervo crassiusculo excurrente, marginibus integerrimis, cellulis basi ad angulos paucis pallidis latioribus, in auriculo parvo integerrimo congestis.

Hab. Ins. Falkland, *J. D. Hooker*, *Lechler*, n. 96.

Rami 3–4-unciales, pinnatim parce ramosi. Folia viridia lutescentia.

10. A. SORDIDUM (*C. Müll. in Bot. Zeit.* 1856, 457, Hypnum). Cæspites elati, latissimi, sordidissime virides, ad caulem medium ochracei, ad inferiorem fuscescentes, molles; caulis flaccidus, elongatus, flexuosus, assurgens, ramis inordinate dispositis uncinatis brevibus vel longioribus divisus, lævis. Folia caulina laxe conferta, reflexa vel secunda, margine erecta integerrima vel obsoletissime denticulata, profunde canaliculata, longitudinaliter plicata, nervo elongato evanido latiusculo deplanato percursa, lævia, ubique e cellulis parvis densis subincrassatis flaventibus, ad caulem seniorem elongatis mollibus, ad infimam basin utrinque laxis in ventrem parvum congestis areolata; perichætialia longe exserta, cylindrum rectum sistentia, e basi lata lanceolata, plicata, subvaginata, in acumen elongatum semitortum producta, integra, e cellulis elongatis angustis mollibus basi laxis pellucidis areolata, margine erecta, nervo tenui evanido.

Hab. Mexico, unde *Miquel* habuit. An palustre?

H. uncinato vel *A. commutato* habitu simile; a priore textura folii, a posteriore characteribus designatis longe diversum.—*C. Müll. l. c.*

113. SCIAROMIUM, Mitt. in Journ. Linn. Soc. viii.

Musci caulibus ut plurimum robustis. Folia obscura, intense viridia, firma, cellulis minutis oblongis obscuris areolata. *Habitatio* ad lapides rivulorum.

Folia ovato-lanceolata subacuminata, nervo percurrente.

1. *S. conspissatum*.

Folia ovato-lanceolata, nervo crassissimo in acumen crassum teretiusculum rigidum excurrente .... 2. *S. crassinervatum.*
Folia oblongo-lanceolata subacuminata .... 3. *S. obscurifolium.*

1. S. CONSPISSATUM (*Hook. f. et Wils.*). Rami procumbentes, vage ramosi. Folia patentia, subsecunda, margine crasse limbata, subscabra.

Hab. Ins. Falkland, in aquosis, *J. D. Hooker.*

2. S. CRASSINERVATUM (*Mitt.*). Rami procumbentes, elongati, vage ramosi. Folia patentia subsecunda, margine late crasseque limbata, ubique subscabra.

Hab. Andes Bogotenses, in montibus prope Bogota e rupibus roridis pendulum (8600 ped.), *Weir*, n. 339; ibidem ad lapides rivulorum (8600 ped.), *Weir*, n. 350.

S. conspissato simillimum; sed rigidius, foliorum nervo crassiore.

3. S. OBSCURIFOLIUM (*Mitt.*). Rami pinnatim ramosi. Folia patentia, subsecunda, nervo crasso percurrente, margine crasse limbata subscabra.

Hab. Andes Chilenses, Mendoza, *Gillies in Herb. Hooker.*

114. THUIDIUM, Schimp. Bryol. Europ.

Musci graciles, caulibus eleganter bipinnatim ramosis. Folia intense vel luteo-viridia, obscura, caulina remota plus minus longe acuminata, ramulina ovata oblongave, obtusiuscula, sæpe concava imbricataque, interdum complanata; perichætialia cellulis angustis pellucidis. Thecæ cylindraceæ, oblongæ vel ovales. *Habitatio* ad terram et rupes, etiam ad arbores.

Peristomium internum ciliis nullis.
  Folia caulina triangulari-acuminata, acumine brevi curvato.
  1. *T. leptocladum.*
  Folia caulina cordata, breviter acuminata .... 2. *T. intermedium.*
  Folia caulina e basi cordata sensim acuminata, sublanceolata.
  3. *T. cylindraceum.*
Peristomium internum ciliis plus minus perfectis.
  Flores monoici.
    Pedunculus scaber.
      Folia caulina cordata, subulato-acuminata. 4. *T. scabrosulum.*
      Folia caulina triangulari-cordata, breviter acuminata.
      5. *T. campanulatum.*
      Folia caulina late ovato-lanceolata .... 6. *T. involvens.*
      Folia caulina a basi deltoidea subulata .. 7. *T. complanum.*
      Folia caulina triangulari-ovata .... 8. *T. schistocalyx.*
      Folia caulina triangularia subulato-acuminata.
      9. *T. ciliatum.*
    Pedunculus lævis.
      Folia caulina e basi cordata acuminata .. 10. *T. exasperatum.*

Folia caulina triangulari-cordata, acuminata.
11. *T. pauperum.*
Folia caulina cordato-lanceolata, substricte breviter acuminata.
12. *T. Schiedeanum.*
Folia caulina triangulari-cordata, breviter acuminata.
13. *T. mexicanum.*
Folia caulina triangularia, acuminata, subplicata.
14. *T. minutulum.*
Folia caulina hastato-cordata, acuminata. 15. *T. pusillum.*
Folia perichætialia lanceolato-acuminata, acumine longissimo dentato flexo .... 16. *T. raphidostegum.*
Folia perichætialia late cordato-ovata, breviter acuminata.
17. *T. eccremocarpum.*

Flores dioici.
Folia caulina cordato-acuminata .... 18. *T. delicatulum.*
Folia caulina late cordato-acuminata .... 19. *T. pseudo-protensum.*
Folia caulina a basi cordato-ovata sensim longe subulato-attenuata.
20. *T. peruvianum.*
Folia caulina a basi cordata in acumen angustum elongatum serrulatum producta .... 21. *T. acuminatum.*
Folia caulina deltoideo-ovata, acuminata, apice latiuscule acuta.
22. *T. brasiliense.*
Folia caulina cordata, acuminata .... 23. *T. chilense.*
Folia caulina latissime cordata, subsemiorbiculata, in acumen subulatum breviusculum rectum vel curvatum producta.
24. *T. filarium.*

1. T. LEPTOCLADUM (*Tayl. in Hook. Lond. Journ.* vi. 339, Leskea). Caulis repens, elongatus, interrupte bipinnatus. Folia nervo tenui infra apicem evanido, marginibus minute crenulatis, cellulis rotundatis, papillis minutis, ramea ramulinaque laxiuscule inserta, vix compressa, ovata, acuta, nervo carinata, crenulata; perichætialia ovata, superne subdenticulata, inde subulato-attenuata, subintegerrima, brevinervata. Theca in pedunculo rubro ovalis, suberecta, subæqualis, operculo longe subulato obliquo, peristomii interni processibus angustis pertusis.

Hab. Andes Quitenses, Quito, *Jameson*; in sylva Canelos (4000 ped.), *Spruce*, n. 1444; in sylva Llalla et in monte Tunguragua (9000 ped.), *Spruce*, n. 1445.

Caulis 2–3-uncialis, gracillimus, laxe cæspitosus. Folia viridia flavescentia. Pedunculus ½-uncialis.

2. T. INTERMEDIUM (*Mitt. in Hook. Kew Journ.* iii. 353). Caulis procumbens, intricate cæspitosus. Folia patentia, nervo sub apice evanido, marginibus minute crenulatis, cellulis rotundatis obscuriusculis papillosis, ramea vix compressa, ovata, ramulina obtusiuscula, laxe imbricata, nervo dorso denticulato carinata, marginibus crenulatis; perichætialia ovato-lanceolata, subulata, serrulata. Theca in pedunculo elongato oblonga,

inæqualis, inclinata, horizontalis, sicca arcuata, operculo subulato obliquo, peristomii interni processibus solidis.

Hab. Andes Quitenses, Quito et Chimborazo, *Jameson*; in montibus Pichincha (10,000 ped.), *Spruce*, n. 1454, et Chimborazo (10,000 ped.), etiam in valle Leito (8000 ped.), *Spruce*, n. 1455; in montibus Guayrapata et Lamas, *Spruce*, n. 1452; in monte Tunguragua (7000 ped.), setis longioribus, *Spruce*, n. 1453, etiam *Humboldt in Herb. Hooker*. n. 9 et 10.

3. T. CYLINDRACEUM (*Mitt.*). Caulis procumbens, laxe cæspitosus, laxe bipinnatim ramosus. Folia biplicata, nervo sub apice evanido, marginibus inferne crenulatis, cellulis rotundis papillatis, ramea compressa, ovata-acuminata, ramulinaque ovata acuta nervo carinata, crenulata; perichætialia lanceolato-subulata, serrulata. Theca in pedunculo rubro cylindracea, suberecta erectave, æqualis subæqualisve, operculo longe subulato, peristomii interni processibus angustis.

Hab. Andes Quitenses, ad pagum Lucmas vallis Alausi (6000 ped.), *Spruce*, n. 1446; in sylva Llalla et in monte Tunguragua (9000 ped.), *Spruce*, n. 1447.

Caulis uncialis, ramulis remotiusculis. Folia viridia subflavescentia, sicca contorta. Pedunculus uncialis. Theca angusta, fere lineam longa.

A *T. leptoclado* habitu minus repente, foliis caulinis sensim acuminatis longioribus, thecis longioribus et processibus non perforatis diversum.

4. T. SCABROSULUM (*Mitt.*). Caulis procumbens, elongatus, intricatus, bipinnatus. Folia patentia, subbiplicata, nervo infra apicem evanido, margine recurva, minute crenulata, cellulis rotundatis obscuris, ramea compressa, oblongo-ovata, acutiuscula, ramulina subdistichacea, compressa, ovalia, obtusiuscula, nervo carinata, crenulata; perichætialia subulato-attenuata, serrulata, nervo percurrente. Pedunculus elongatus. Theca horizontalis, ovalis, operculo subulato, peristomii interni ciliis in unum coalitis.

Hab. In America australi?, *Humboldt in Herb. Hooker*, n. 40 et 29 B. Fl. Amazon ad Caripi prope Pará, *Spruce*, n. 1463; prope Pará, *Spruce*, n. 1464; Obidos in carbonariis sylvarum, *Spruce*, n. 1459; ad fl. Caipurú, *Spruce*, n. 1460. Fl. Negro prope S. Gabriel ad terram et truncos emortuos in sylvis Caatingas dictis, *Spruce*, n. 1456; ad rivulum Cauapuna, n. 1457, prope S. Carlos, n. 1461. Fl. Negro superior seu fl. Guainiá, *Spruce*, n. 1462.

T. involvente minus et bipinnatum, foliis opacioribus siccis involutis.

5. T. CAMPANULATUM (*Mitt.*). Caulis procumbens, gracilis, elongatus, tripinnatus. Folia parva, patentia, nervo sub apice evanido, marginibus crenulatis recurvis, cellulis rotundatis obscuriusculis papillosis, ramea remotiuscula, patenti-incurva, ovato-acuminata, ramulina ovata, acuta, ultima obtusiuscula, nervo dorso scabro carinata, marginibus crenulatis, cellulis papillosis; perichætialia e basi ovata superne serrulata, in

acumen elongatum angustum sublævem producta, nervo evanido. Theca in pedunculo longissimo rubro breviter ovalis, inclinata, evacua ore amplo turbinata, operculo subulato, peristomii interni processibus angustis, ciliis brevissimis rudimentariis obsoletisve.

Hab. Andes Quitenses, in monte Abitagua ad ligna (6000 ped.), *Spruce*, n. 1449.

Caulis 2–3-uncialis, ramis 2–3-linearibus. Folia viridia flavescentia.

6. T. INVOLVENS (*Hedw. Musc. Frond.* 4, t. 11, Leskea). Caulis procumbens, pinnatus. Folia patentia paululum asymmetrica, nervo sub apice evanido, marginibus subintegerrimis recurvis, cellulis rotundatis obscuriusculis, minute brevissimeque papillosis, ramea remotiuscula, patula, compressa, distichacea, ovata, acuta, nervo uno lateri propinquiore asymmetrica, carinata, marginibus minutissime crenulatis, cellulis brevissime papillosis; perichætialia e basi ovata subulata anguste attenuata, integerrima, nervo percurrente. Theca in pedunculo rubro papillis scabro ovalis, horizontalis, operculo acuminato brevirostro, peristomii interni ciliis in unum coalitis.

Hookeria parvifolia, *Tayl. in Hook. Lond. Journ.* vii. 193.

Hab. Ins. Jamaica, *Swartz*; Cuba, *Wright*, n. 98; Guiana, *Richard*, *Kegel*; Venezuela, *Wagner*. Andes Quitenses, Puerto del Nepo, *Villavicensio*. Andes Peruvianæ, *Humboldt et Bonplond*, *Pœppig*, in lignis ad Tarapoto et fl. Huallaga, *Spruce*, n. 1451; Guayaquil ad fl. Ventenas, *Spruce*.

Caulis 1–2-uncialis, radicans, ramis 2-linearibus. Folia viridia, sicca intorta. Pedunculus ½-uncialis. Theca parva.

Habitu simpliciter pinnato et foliis rameis distichaceis satis facile distinguendum.

7. T. COMPLANUM (*Mitt.*). Caulis procumbens, bipinnatus. Folia nervo in acuminis basi evanescente, margine subintegerrima, cellulis rotundatis obscuris versus subulæ apicem elongatis pellucidis, ramea ramulinaque complanata, lateraliter patentia, ovali-oblonga, obtusa, nervo parum pellucidiore infra apicem desinente subcarinata, margine crenulata, cellulis parvis rotundis obscuris; perichætialia e basi ovata subulata, nervo in acumen setaceum articulatum excurrente, margine integerrima rarius subdentata. Pedunculus elongatus, rufus. Theca oblonga, inæqualis, horizontalis, operculo subulato decurvo.

Hab. Ins. Trinidad, *Black*.

Species foliis *T. involventi* similis, caule autem bipinnato diversa.

8. T. SCHISTOCALYX (*C. Müll. Syn.* ii. 691, Hypnum). Caulis repens, humillimus, bipinnatus. Folia patentia, acuta, planiuscula, nervo ultra medium evanido, marginibus subintegerrimis, cellulis rotundatis obscuris, papillis minutissimis, ramea compressa, ovata, obtusiuscule acuta, ramulina ovalia, obtusa, nervo dorso sublævi carinata, marginibus subcrenulatis, cellulis brevissime papillosis sublævibus; perichætialia e basi

ovata superne ciliata, subulato-attenuata, integerrima. Theca ovalis, inæqualis, inclinata, operculo oblique rostrato, peristomii interni ciliis trabeculatis, in unum coalitis, processibus brevioribus.

Hab. Ins. Cuba, *Wright*, n. 96; Nicaragua, *Œrsted.* Fl. Amazon, prope Santarem, ad arborum radices, *Spruce*, n. 1458.

Caulis uncialis. Folia viridia. Pedunculus 4-linearis.

T. minutulo simile, sed caulis magis repens.

9. T. CILIATUM (*Mitt.*). Caulis elongatus, repens cameratusque, bipinnatus. Folia patenti-incurva, nervo lato dorso scabro percurrente carinata, marginibus recurvis subcrenulatis, cellulis rotundatis breviter papillatis, ramea subcompressa, ovata, acutiuscula, ramulinaque ovalia obtusa, nervis dorso scabris carinata, crenulata, cellulis obscuris papillosis; perichætialia lanceolata, superne breviter ciliata, in acumen elongatum angustum producta, subserrulata, nervo percurrente. Theca in pedunculo elongato ovalis, horizontalis, operculo subulato, peristomii interni ciliis tribus in unum coalitis.

Hab. Andes Peruvianæ, prope Tarapoto (1800 ped.), *Spruce*, n. 1465.

Caulis 1–1½-uncialis, interrupte ramosus. Folia viridia flavescentia. Pedunculus uncialis.

T. scabrosulo affine, sed foliis caulinis minus anguste acuminatis ramulinis minus compressis obtusioribus et perichætialibus ciliatis diversum.

10. T. EXASPERATUM (*Mitt.*). Caulis repens, irregulariter bipinnatus. Folia patentia, nervo in acumine evanido, margine creberrime crenulata, cellulis rotundis papillis obscuratis, ramea ovata, acuta, ramulinaque ovata obtusa compressa, nervis subconcoloribus infra apicem abruptis, dorso cristato serrulatis, margine cellulis papillis ubique prominulis erosa; perichætialia a basi ovata erecta longe anguste subulata, loriformia, recurva, apice subserrulata, nervo percurrente. Pedunculus elongatus ruber.

Hab. Brasilia, Constitutao in sylvis ad arborum truncos (2000 ped.), *Weir*, n. 34.

T. paupero simile, sed folia magis erosa.

11. T. PAUPERUM (*C. Müll. Syn.* ii. 493, Hypnum). Caulis intricatus, cæspitosus, subpinnatus. Folia patentia, nervo sub apice evanido carinata, marginibus inferne recurvis subcrenulatis, cellulis obscuriusculis rotundatis minute papillosis, ramea compressa ovata subacuminata, paululum asymmetrica, ramulina ovata, obtusiuscula, nervo carinata, marginibus crenulatis, dorso papillosis; perichætialia lanceolata, subulato-attenuata, acumine plano subserrulato. Theca in pedunculo elongato oblonga, sicca arcuata, operculo curvirostro, peristomii interni ciliis tribus appendiculatis.

Hab. Venezuela, prov. Merida, in valle Merida (6000 ped.), in arboribus putridis, *Funck et Schlim*, n. 989.

T. minutulo simile, sed caules proceriores.

12. T. SCHIEDEANUM (*C. Müll. Syn.* ii. 494, Hypnum). Minutis-

simum, compactum, tomentosum; caulis brevissimus, simpliciter pinnulatus. Folia caulina minutissima, opaca, papillosa, margine parum revoluto, nervo evanido pallescente; perichætialia *T. pauperi*. Theca in pedunculo elongato rufo arcuato-oblonga, parva, horizontalis, annulata, badia, operculo conico oblique rostrato; peristomium *H. minutuli*.—*C. Müll. l. c.*

Hab. Mexico, prope Xalapa, *Deppe et Schiede.*

13. T. MEXICANUM (*Mitt.*). Repens, bipinnatum. Folia patentia, nervo sub apice evanido, marginibus subcrenulatis, cellulis rotundatis obscuris, ramea compressa, ovata, obtusiuscule acuta, ramulina ovata, obtusa, nervo ultra medium evanido, marginibus crenulatis; perichætialia in acumen angustum producta. Theca in pedunculo elongato cylindracea, suberecta, peristomii interni ciliis singulis.

Hab. Mexico, *Ruiz et Pavon.*

Statura *T. minutuli*, nisi laxius.

14. T. MINUTULUM (*Mitt.*). Caulis intricate cæspitosus, subpinnatus. Folia patentia, nervo infra apicem evanido, margine minute crenulata, cellulis rotundatis obscuris, ramea compressa, ovalia, acuminata, acuta, margine planiuscula crenulata, nervo ultra medium evanido carinata, ramulina ovalia, acuta; perichætialia brevia, pallida, ovata, acumine angusto minute serrulato. Theca in pedunculo elongato ovalis, horizontalis, æqualis.

Hab. Ins. Jamaica, *Wilds*; Cuba, *Wright*, n. 95.

15. T. PUSILLUM (*Mitt.*). Caulis intricatus, bipinnatus. Folia patentia, crenulata, nervo sub apice evanido, ramea compressa, ovata, acuta, ramulinaque obtusiuscula, crenulata, omnia cellulis obscuris papillosis; perichætialia e basi lanceolata subserrulata, longe filiformi-attenuata. Theca in pedunculo elongato inclinata, oblonga, subæqualis, peristomii interni ciliis binis appendiculatis.

Hab. Venezuela, Caracas (4000 ped.), *Funck et Schlim*, inter n. 351.

T. minutulo minus.

16. T. RAPHIDOSTEGUM (*C. Müll. Syn.* ii. 494, Hypnum). Monoicum; *T. minutulo* simillimum, sed maxime tenerrimum, subbipinnatum. Folia multo minora; perichætialia acumine flexuoso haud reflexo subexcurrentinervia, pellucida, basi su[illegible]. Theca in pedunculo elongato tenerrimo lævi minutissime obovata, turbinata, macrostoma, longicolla, inclinata, badia, annulata, operculo longissime aciculari thecam superante, peristomium *T. minutuli*.—*C. Müll. l. c.*

Hab. Chili, *Pœppig.*

17. T. ECCREMOCARPUM (*C. Müll. Syn.* ii. 495, Hypnum). Monoicum; *T. minutulo* simillimum sed subbipinnatum, maxime tenerrimum. Folia multo minora; perichætialia minuta pauca appressa, vaginam haud superantia, tenero-membranacea. Theca in pedunculo brevi

tenuissimo ævi nutans, minute urceolato-ovata, annulata; peristomii dentes interni ciliis singulis (?) appendiculatis.—*C. Müll. l. c.*

Hab. Ins. Hispaniola, *Bertero.*

18. T. DELICATULUM (*Hedw. Musc. Frond.* 4, t. 33, Hypnum). Caulis gracilis, procumbens, cameratus. Folia erecto-patentia, plicata, nervo sub apice desinente, margine crenulata, inferne revoluta, cellulis rotundatis obscuriusculis, ramea subcompressa, ovata, subacuminata, plicata, margine plana recurvave, ramulina subcompressa, imbricata, concava, ovata, acutiuscula, margine dorsoque crenulata, nervo tenui ultra medium evanido; perichætialia a basi lanceolata ciliata, longe loriformi-attenuata, serrulata. Theca in pedunculo elongato horizontalis, cylindracea, arcuata, operculo curvirostro.

Hypnum filicinum &c., *Dill.* 546, t. 83. f. 6.

Hab. Ins. Jamaica, *Purdie, March*; San Domingo, Sti. Vincentis, *Guilding*; Venezuela, Caracas, *Funck et Schlim,* n. 349. Andes Bogotenses, Boqueron prope Bogota (6000–9500 ped.), *Weir,* n. 202 *a*; in sylvis prope Pacho (7000 ped.), *Weir,* n. 283; in sylvis Turmal prope Pacho (7000 ped.), *Weir,* n. 376; absque loco speciali, *Humboldt in Herb. Hooker.* n. 11 *b.* Fl. Negro, ad saxa rivulorum in montibus S. Gabriel, ad pedem montis Cocui, Andes Quitenses ad Antombos, et in sylva Canelos (4000 ped.), *Spruce,* n. 1475. Andes Peruvianæ, ad Tavalosos, et in monte Campana (3500 ped.), *Spruce,* n. 1476. Brasilia, Rio de Janeiro, *Heward*; in monte Corcovado, *Milne*; Sierra dos Orgaos, *Gardner,* n. 1256; crescit etiam in America boreali, usque ad Canadam superiorem.

This appears to be the species intended by Dillenius, p. 546, t. 83 (whose figure is copied by Hedwig); and he says, "nascitur in Virginia Marylandia et Pennsylvania;" it would appear to be common in the United States, where it has been collected by Chapman, Cooley, Douglas, Drummond, Green, Sullivant, and Torrey. C. Müller says, Syn. ii. 484, that this species is found also in Europe.

19. T. PSEUDO-PROTENSUM (*C. Müll. Syn.* ii. 484, Hypnum). Dioicum, *T. tamariscino* simillimum, sed folia tenerrime papillosa, minutius areolata, plicata; perichætialia parva, foliis late ovato-lanceolatis in acumen breve rectum productis, haud plicatis, tenerrime remote papillosis, incrassate reticulatis.—*C. Müll. l. c.*

Hab. Venezuela, Lagunetta prov. Merida (6500 ped.) in arboribus, *Funck et Schlim,* n. 992.

20. T PERUVIANUM (*Mitt.*). Caulis erectus adscendensve, per longitudinem subæqualiter pinnatus. Folia erecto-patentia, subsecunda, lata, inferne plicata, nervo infra apicem evanido, margine subintegerrima, inferne plus minus recurva reflexave, cellulis oblongis utrinque papilliferis, ramea subcompressa, ovata, acuminata, concava, subplicata, crenulato-

serrulata, ramulina laxe imbricata, ovata, obtusiuscula, concava, marginibus serrulatis, dorso papillis prominentibus; perichætialia elongata, a basi lanceolata superne ciliata, longe loriformi-attenuata, subserrulata. Theca in pedunculo elongato cylindracea, inclinata, arcuata, operculo subulato curvirostro; peristomium normale, internum ciliis tribus appendiculatis.

Hab. Andes Bogotenses, Boqueron, prope Bogota (6000–9500 ped.), *Weir*, n. 202 *b*. Andes Quitenses, in montibus Chimborazo (10,000 ped.), *Spruce*, n. 1469, Pichincha (10,500 ped.), n. 1471, Guayrapata (9000 ped.), n. 1473, et Carguairazo (11,000 ped.), n. 1470. In Peruvia, *Mathews in Herb. Hooker.*

21. T. ACUMINATUM (*Mitt.*). Caulis cameratus, repens. Folia patentia, plicata, marginibus reflexis, nervo sub apice evanido, cellulis parvis ovalibus obscuriusculis, papillis brevibus fere lævibus, ramea appressa, hastato-ovata, acuminata, plicata, apice minute crenulata, subintegerrima, ramulina imbricata, ovata, acuminata, concava, dorso marginibusque crenulata; perichætialia basi lanceolata, copiose ciliata, longe loriformi-attenuata, serrulata. Pedunculus elongatus. Theca horizontalis, cylindracea, arcuata, operculo curvirostro.

Hab. Ins. Jamaica, *M'Nab, March, Wilds, Heward, Wilson.* America australis, *Humboldt.*

T. delicatulo paululo gracilius et folia acumine multo longiore.

22. T. BRASILIENSE (*Mitt.*). Caulis ruber, arcuatus, interrupte 2–3-pinnatus. Folia patentia, subsecunda, nervo infra apicem evanido, subcarinata subsulcataque, margine papillis crenata, inferne recurva, cellulis omnibus elongatis papillis aculeiformibus armatis, ramea compressa, patentia, deltoideo-ovata, acuta, ramulinaque ovata concava, incurva, tereti-imbricata, cellulis ellipticis singulis papilla unica medio imposita præditis areolata.

Hab. Brasilia tropica, *Burchell.*

Caulis 2–4 uncias longus, hic illic radicans, ramos 2–4-lineares emittens. Folia ochracea.

Habitu, statura, coloreque *T. tamariscino* Hedw. Europæ persimillimum, foliis autem ramulinis apicibus incurvis et omnibus e cellulis elongatis ellipticisve areolatis distinctissimum.

23. T. CHILENSE (*Mitt.*). Caulis procumbens, pinnatus, paraphyllis paucis. Folia patula, nervo sub apice evanido carinata, marginibus crenulatis basi recurvis, cellulis rotundatis obscuris papillosis, ramea minus acuminata, apicibus sæpe curvatis crenulatis.

Hab. Chili ad Arique, *Lechler.*

Caulis subuncialis, ramulis 1–2-linearibus. Folia flava, dense inserta. Habitus *T. abietini*, sed minus.

24. T. FILARIUM (*Mitt.*). Dioicum; caulis adscendens, arcuatus, apice

decurvus radicans, ramis irregularibus sparsis subbipinnatim ramosus, phyllidiis obtectus. Folia patentia, brevia, basi subbiplicata, ramea ovata acuminata, ramulina ovata acuta, omnia integerrima lævia, cellulis minutis rotundis obscuris.

Hab. Brasilia tropica, *Burchell*, n. 1105–1173.

Caulis uncialis, gracilis, ramis 3-linearibus. Folia viridia flavescentia, sicca incurva.

Species ex habitu irregulari pinnato et foliis ramulinis haud compressis a reliquis statim dignoscitur.

Tribus XIX. SKITOPHYLLEÆ.

115. BRYOZIPHIUM, gen. nov.

B. NORVEGICUM (*Brid.* ii. 764, Eustichia). Dioicum, cæspitosum; caulis basi bulbosus radiculosus, simplex, rarius innovatione divisus. Folia in caulibus florescentibus sensim superne majora, inferiora dissita, superiora imbricata, apicibus florem versus sensim longius acuminatis, nervo percurrente, ala dorsali angusta a folii medio ad apicem usque continua, cellulis oblongis angulosis pellucidis, illis ad margines propinquioribus angustioribus; floralium apicibus elongatis sensim angustatis flexuosis subserrulatis.

Phyllogonium norvegicum, *Sulliv. Contr. Bryol. Hepatic. N. Amer.* pl. 1. f. 1.

Eustichia norvegica, *C. Müll. Syn.* i. 42.

Eustichium norvegicum, *Schimp. Syn. Musc. Eur.* 138.

Hab. Mexico, *Liebmann*, fide *Schimp. l. c.* Valle de Mexico, *Bourgeau*.

Caules ½–1½-unciales, steriles foliis æquilongis arcte imbricatis. Folia rigida, lutea, nitida.

This remarkable moss, which Bridel received from Desvaux as having been gathered in Norway, has not since been found in Europe; specimens are stated by C. Müller and by Schimper to have been collected in Iceland, and Sullivant has given an excellent figure from specimens obtained in the United States. The occurrence of what appears to be the same species at such remote localities could hardly have been expected. There is a slight discrepancy in the descriptions, for Schimper finds the perigonium "triphyllum."

116. FISSIDENS, Hedw. Fund. ii. 91.

Musci pusilli caulibus brevissimis, vel robusti elongati, parum ramosi. Folia nervo e carina egrediente per alam foliiformem continuo rarissime obsoleto, limbo e cellulis angustissimis hyalinis conflatis composito marginata, vel immarginata, cellulis marginalibus prominulis crenulatis, cellulis parvis rotundatis pellucidis vel obscuris interdum opacis papillosisque rarius elongatis laxis areolata. Thecæ in pedunculo plus minus elongato erectæ æquales, inclinatæ horizontalesve, interdum inæquales; operculis acuminatis, peristomii dentibus 16 ad medium fissis, raro in 8 coalitis.

Sect. 1. OCTODICERAS. *Caules fluitantes procumbentesve. Fructus in ramulis brevibus lateralibus. Theca minuta, breviter pedunculata.*

Fructus in ramulo brevi folioso.
Peristomii dentes 8.
Folia cellulis rotundatis areolata .... 1. *F. semicompletus.*
Folia cellulis grosse hexagonis laxis pellucidis mollibus reticulata. 2. *F. mexicanus.*
Peristomii dentes 16.
Caules fluitantes, ramosi.
Theca turbinata...................... 3. *F. parvus.*
Theca ovalis .... 4. *F. Berterii.*
Caules terrestres subsimplices.
Theca breviter ovalis immersa.......... 5. *F. immersus.*
Theca deoperculata, globosa .... 6. *F. stissotheca.*
Fructus in foliorum caulinorum axilla fere sessilis. 7. *F. hydropogon.*

Sect. 2. EUFISSIDENS. *Caules adscendentes vel erecti breves vel elongati. Theca sæpius longe pedunculata.*

Fructus in ramulis brevibus lateralis, rarius terminalis. Flores dioici.
Folia lata, ligulata, obtuse acuta, integerrima.. 8. *F. polypodioides.*
Folia latissima, obtusissime acutata, apice remote parcissime dentata. 9. *F. Œrstedianus.*
Folia anguste lanceolato-acuminata.......... 10. *F. insignis.*
Folia anguste lanceolata, acuminata, crispatissima. 11. *F. circinans.*
Fructus terminalis.
Folia ubique immarginata.
Theca erecta. Flores ut plurimum monoici.
Folia angusta e basi ad apicem sensim acuminata. 12. *F. petrophilus.*
Folia oblongo-ligulata, obtusiuscule acuta. 13. *F. radicans.*
Folia lato-lanceolata.................. 14. *F. asterodontium.*
Folia oblongo-linguæformia, apice obtusa subacuminulata. 15. *F. guianensis.*
Folia lanceolata, plus minus acuta cellulis pellucidis. 16. *F. flexinervis.*
Folia lanceolata, subcrenata............ 17. *F. subcrenatus.*
Folia lanceolata, oblique subensiformia, splachnoidea, pellucida. 18. *F. pellucidus.*
Folia elliptico-lanceolata, acuta acuminatave, pellucida. 19. *F. inæqualis.*

Theca inclinata.
Folia lanceolata, longa, latiuscula, obtusiuscula.
20. *F. amœnus.*
Folia lanceolato-subulata . . . . 21. *F. subulatus.*
Folia oblongo-lanceolata, acuta.
Dentes peristomii geminati . . . . 22. *F. diplodus.*
Dentes peristomii discreti . . . . 23. *F. cylindraceus.*
Folia oblongo-lanceolata, apice lata, angulo obtuso terminata.
24. *F. brachypus.*
Folia linearia, sensim angustata . . . . 25. *F. prionodes.*
Folia linearia, subacuta . . . . 26. *F. similiretis.*
Folia elongata, ligulata, apicibus obtuse acutis.
27. *F. asplenioides.*
Folia linearia, obtuse acuminulata, sicca crispato-inflexa.
28. *F. maschalanthus.*
Folia longe lineari-lanceolata, hic illic submarginata, cellulis amplissimis areolata . . . . 29. *F. sphagnifolius.*
Folia linearia, lanceolata, incurva . . . . . . 30. *F. campylopus.*
Folia lanceolata, obtusa . . . . 31. *F. genunervis.*
Folia oblongo-lanceolata, obtusiuscula . . 32. *F. flavinervis.*
Folia late lanceolata, acuta . . . . 33. *F. pallidinervis.*
Folia oblonga, obtusa angulove obtuso terminata.
34. *F. Gardneri.*
Folia oblonga obtuse acuta aspera . . . . . . 35. *F. muriculatus.*
Folia lamina vera limbata.
Theca erecta.
Folia lanceolata, brevia . . . . 36. *F. semimarginatus.*
Folia lineari-oblonga acuta opaca . . . . . . 37. *F. Hornschuchii.*
Folia latiuscule scalpelliformia obtusiuscula.
38. *F. leptophyllus.*
Folia anguste lanceolata . . . . 39. *F. intermedius.*
Theca inclinata.
Folia elliptico-linearia, acuta . . . . 40. *F. intromarginatus.*
Folia anguste lanceolata, acuminata, opaca.
41. *F. Moritzianus.*
Folia elongate oblongo-lanceolata, opaca . . 42. *F. elegans.*
Folia anguste linearia . . . . 43. *F. densiretis.*
Folia elongate oblonga, acuta, opaca . . . . 44. *F. Splitgerberianus.*
Folia lanceolata, dimorpha . . . . 45. *F. dimorphus.*
Folia oblongo-lanceolata, acuta, cellulis oblongis hexagonisque parietibus incrassatis areolata . . . . 46. *F. scalaris.*
Folia oblongo-lanceolata, acuta, obscura . . 47. *F. tenuifolius.*
Folia laminis omnibus limbatis.
Theca erecta.
Folia lanceolata, acuminata opaca . . . . . . 48. *F. psatyrocheilon.*

Folia latiuscule lanceolata, subopaca ....49. *F. tortilis.*
Folia lato-lanceolata, obtusiuscula, subpellucida.
50. *F. pseudobryoides.*
Folia lineari-elliptica, acuta, pellucida ..51. *F. Kegelianus.*
Folia densius pellucido-hexagono-areolata.
52. *F. angustifolius.*
Folia lineari-elliptica, acuta, obscuriuscula. 53. *F. monandrus.*
Folia elliptico-lanceolata, acuta, cellulis sinuosis elongatis pellucidis areolata ....54. *F. scariosus.*

Theca inclinata inæqualisve.
Folia lineari-lanceolata, arctissime areolata.
55. *F. longifolius.*
Folia spathulato-elliptica, acuta, cellulis parvis suboblongis areolata.
56. *F. palmatus.*
Folia elongato-oblonga lineari-oblongave, breviter acuta, cellulis laxis amplis areolata.................57. *F. dissitifolius.*
Folia lineari-elliptica, pellucida ....58. *F. mollis.*
Folia elongata subspathulato-lanceolata, acuta, cellulis laxis pellucidis areolata.......................59. *F. macrophyllus.*
Folia oblongo-lanceolata, crispatissima ..60. *F. crispus.*
Folia anguste lineari-lanceolata acuminata, cellulis parvis oblongis parietibus crassis obscuris areolata ....61. *F. tequendamensis.*
Folia lineari-lanceolata, opaca..........62. *F. Lindigii.*
Folia oblongo-elliptica, obtuse acuta ....63. *F. anguste limbatus.*
Folia elliptico-oblonga, acuta apiculatave, obscura.
64. *F. repandus.*
Folia elongate lanceolata acuminata pellucida.
65. *F. Lindbergii.*
Folia anguste linearia, acuta, opaca, rigida.
66. *F. rigidulus.*
Folia lineari-oblonga, acuta, obscura ....67. *F. Weiri.*
Folia oblongo-acuminata, cellulis magnis subrhombeis hyalinis areolata.............................68. *F. reticulosus.*

Sect. 1. *Octodiceras,* Brid. ii. 675.

1. F. SEMICOMPLETUS (*Hedw. Musc. Frond.* t. 13). Monoicus; caulis elongatus, ramosus. Folia alterna, patentia, linearia, elongata, obtusiuscula, nervo percurrente, lamina vera infra medium desinente, cellulis subpellucidis. Fructus in ramulo brevi longioreve foliis minoribus. Theca ovalis, operculo acuminato, peristomii dentibus rubris bifidis.

Skitophyllum semicompletum, *La Pyl. in Desv. Journ. Bot.* v. (1814) 160, t. 39. f. 13 (e figura Hedwigii desumpta).

Octodiceras fissidentioides, *Brid.* ii. 676..

Conomitrium Hedwigii, *Mont. in Ann. Sc. Nat.* ser. 2. viii. 250, *et in d'Orbigny, Voy.*; *C. Müll. Syn.* i. 45.

Hab. Chili, *Herb. Montagne.*

Caulis 1–2-uncialis. Folia 2-linearia. Theca minuta, in ramulo brevissimo folio tegente longe brevior, vel in ramulo elongato exserta.

The specimens given to me by Montagne are destitute of fruit.

2. F. MEXICANUS (*Schimp.*). *F.* (*Conomitrio*) *juliano* simillimus, sed folia lamina dorsali pro more ad basin jam enata instructa. Fructus ignotus.

Conomitrium, *Schimp. in sched.*; *C. Müll. in Bot. Zeit.* 1864, p. 347.

Hab. Mexico, Orizaba in fl. Rio Blanco, *Ferd. Müller.*

3. F. PARVUS (*Dill.* 259, t. 33, Fontinalis). Monoicus; caulis elongatus, ramosus. Folia alterna, patentia, elongate linearia, acuta, nervo percurrente, lamina vera infra medium desinente, laminibus omnibus integerrimis immarginatis, cellulis rotundatis subobscuris. Theca minuta in pedunculo brevi, peristomii dentibus bifidis, operculo acuminato.

Skitophyllum Dillenii, *La Pyl. in Desv. Journ. Bot.* v. (1814) 161, t. 39. f. 14 (e figura Dillenii desumpta).

Conomitrium Dillenii, *Mont. in Ann. Sc. Nat.* ser. 2. viii. 250; *C. Müll. Syn.* i. 45.

Octodiceras Dillenii, *Brid.* ii. 677.

Hab. Patagonia, fide *Dillenii*; Chili, Valparaiso, *Herb. Montagne.*

Caulis 2–3-linearis. Folia 2-linearia, luteo-viridia. Fructus in ramulo brevissimo folio caulino subtendente brevior.

4. F. BERTERII (*Mont.*; *C. Müll. Syn.* i. 45). Monoicus; caulis elongatus, ramosus. Folia alterna, patentia, elongate linearia, acuta, lamina vera infra medium desinente, nervo percurrente, cellulis rotundatis obscuris. Fructus in ramulo brevissimo foliis paucis minutis. Theca minuta in pedicello brevi, operculo acuminato, peristomii dentibus elongatis inæqualiter bicruribus per paria approximatis.

Conomitrium Berterii, *Mont. in Ann. Sc. Nat.* ser. 2. viii. 250, *et in d'Orbigny, Voy.* 104.

Hab. Chili, ad saxa in scaturiginibus collium editiorum, *Bertero, Herb. Montagne.*

Caulis 2-uncialis. Folia 3-linearia, sordide luteo-viridia. Theca cum pedunculo ramuloque fructifero lineam longa.

5. F. IMMERSUS (*Mitt.*). Caulis procumbens, elongatus, parum ramosus simplexve. Folia oblonga, acuta, nervo percurrente, lamina vera ultra medium producta subæquali margine recurva, lamina dorsali basin versus angustata, laminis omnibus integerrimis immarginatis, cellulis parvis rotundis obscuris. Theca in ramulo brevissimo laterali, foliis circiter trijugis, sessilis, operculo conico acuminato; peristomium dentibus 16 æquidistantibus fissis.

Hab. Brasilia tropica, *Burchell.*

Caulis unciam longus, fluitans?, latitudine cum foliis 1½-linearis. Folia obscure olivaceo-viridia, fusco-nigricantia.

6. F. STISSOTHECA (*Hampe; C. Müll. Syn.* ii. 525, Conomitrium). Monoicus, laxe cæspitosus; caulis erectus, innovationibus parce dichotome ramosus. Folia laxe conferta, latiuscula, brevia, sicca parum crispula; folia lamina ⅔ producta inæquali, ala conica in medio laminæ apicalis connata acuta; lamina dorsalis e basi angustissima sensim dilatata; lamina apicalis lato-lanceolata obtusiuscula, nervo genuflexo rubiginoso evanido; omnes laminæ integerrimæ, e cellulis densiusculis mollibus robustiusculis intense viridibus pachydermibus areolatæ. Pedunculi in ramulis exsertis tenerrimis terminalibus vel lateralibus terminales, brevissimi, tenerrimi, subcarnosi, plerumque aggregati. Theca minuta, oblonga, deoperculata globosa, sicca rugulosa, recta, operculo conico brevi carnoso subobliquo; calyptra junior campanulata; peristomii dentes perbreves, bifidi, fugaces.—*C. Müll. l. c.*

Hab. Brasilia, prov. S. Catharina, ad ripas, *Blumenau.*

F. osmundoidi haud dissimilis.—*C. Müll. l. c.*

7. F. HYDROPOGON (*Spruce*). Monoicus, cæspitosus; caulis inordinatim ramosus, ramulis iterum iterumque furcatis nonnullis subpinnatis. Folia erecto-patentia, imbricata, oblongo-elliptica, acuta, nervo latiusculo concolori sub summo apice evanido, lamina vera ad medium fere producta inæquali, dorsali infra medium sensim evanescente, laminis omnibus cellulis parvis diversiformibus rotundatis obscuris lævibus marginalibus prominulis. Theca in pedunculo brevissimo ovalis, ore satis magno ad apicem folii attingente, operculo conico, breviter oblique rostrato, peristomii dentibus elongatis angustis fere ad basin usque dicranis, intus extusque asperis punctulatis rubris. Flos masculus gemmiformis, in foliorum axillis tetraphyllus, antheridiis 20 paraphysibus paucis dimidio brevioribus immixtis fovens.

Hab. Andes Quitenses, in sylva Canelos ad ramulos fl. Bombonasa inundatos (1500 ped.), *Spruce*, n. 506, 507.

Caulis 2–3-uncialis, cum foliis lineam latus. Folia humida mollia, siccatione autem parum mutata, inferiora ut plurimum destructa, in caulium apicibus olivaceo-viridia.

Sect. 2. *Eufissidens.*

8. F. POLYPODIOIDES (*Sw. Fl. Ind. Occ.* iii. 1772, Dicranum; *Hedw. Musc. Frond.* iii. 63, t. 27). Dioicus; caulis elongatus. Folia patentia, nervo obscuriore percurrente, lamina vera ultra medium producta æquali, lamina dorsali inferne lata basi abrupta, cellulis parvis rotundatis, parietibus angustis pellucidis; perichætialia in ramulo fructifero laterali elongate spathulata. Pedunculus breviusculus. Theca oblonga, inclinata, post

operculi delapsum valde contracta, ore magno, peristomii dentibus validis rubris.

Skitophyllum, *La Pyl.* t. 35.

Hab. Ins. Jamaica, *Swartz, Wilds, Wilson*; Cuba, *Wright*, n. 10; Guadelupe, *Funck et Schlim*, n. 230; Dominica, *Bridel*; Columbia, *Moritz*. Andes Quitenses, in monte Abitagua (6000 ped.), *Spruce*, n. 471.

Caulis 1–3-uncialis, ut plurimum simplex, latitudine cum foliis 3–4-linearis. Folia 2-linearia, viridia fulvescentia, subnitida, interdum paululum transversim undulata; perichætialia ubi fructus e caulis apice editur caulinis similia.

9. F. **Œrstedianus** (*C. Müll. Syn.* ii. 529). *F. polypodioidi* proximus, sed caulis frondiformis latissimus, superne sæpius maxime ramosus; theca in pedunculo geniculato-flexuoso-adscendente horizontalis subcylindraceo-oblonga longior, dentibus longis regulariter bifidis intense purpureis.

Hab. America centralis, Costa Rica (5000–8000 ped.), *Œrsted.*

F. polypodioides theca vix inclinata obovata brevi et fronde multo angustiore primo visu distinguitur.—*C. Müll. l. c.*

10. F. **insignis** (*Schimp.*). Elongatus, augustifrondosus, luteo-viridis, rigidus, ramis elongatis parallelis similibus fasciculatim divisus. Folia caulina densissime imbricata, frondem elegantissimum apice vix secundum sistentia, erecto-patentia, caule pallido crasso complanato diaphano multo angustiora, acumine strictiusculo vel parum incurvo crasso obtusiusculo veluti pungente coronata, carnosa, nervo in superficie folii lineam angustam ante apicem evanidam pallescentem sistente percursa, margine integro vel irregulariter eroso erecto immarginata, e cellulis obscuris angulato-hexagonis irregularibus incrassatis areolata; lamina vera æqualis compressiuscula usque ad medium folii producta, summitate acuta; lamina dorsalis ad basin oriunda angusta.

Hab. Mexico, in monte Orizaba, *Ferd. Müller.*

Habitu *F. grandifrondis,* sed foliis brevioribus apice veluti pungenti-acuminatis facile distinguitur.

11. F. **circinans** (*Schimp.*; *C. Müll. in Bot. Zeit.* 1864, 340). Dioicus; habitus F. *adiantoidis* gracilioris, sed folia magis acuminata acutiora parum flexuosa; lamina folii vera symmetrica obtusior; lamina dorsalis infra basin folii rotundato-enata latiuscula integra; lamina apicalis apice irregulariter serrulata, nervo pallido in mucronulum brevem evanido; omnes laminæ cellulis pallidioribus marginatæ, e cellulis minoribus subopacis incrassatis rigidis nec carnosis nec chlorophyllosis rotundis pallidioribus areolatæ; perichætialia subconvoluto-vaginata lata longa multo laxius et grossius reticulata, apice grosse erosa vel crenulata, lamina dorsali ad apicem folii enata cum apicali angustissime lanceolato-acuminata evanidinervia integra. Theca in pedunculo mediocri purpurascente flexuoso laterali erecta, vel

ob curvaturam pedunculi levem inclinata, oblonga, ore constrictiuscula, rufescens.

Hab. Mexico, St. Christoval, *Ferd. Müller.*

"Fructus plures in eodem caule observantur. Inflorescentia foliisque diverse areolatis a *F. adiantoide* distat."—*C. Müll. l. c.*

12. F. PETROPHILUS (*Sulliv. in Proc. Amer. Acad.* 1861, 276). Rigidus, gracilis, basi nudiuscula fasciculatus, prolifero-elongatus. Folia circiter 30-juga confertissima, erecta, longissima, angusta, duplicatura inæquali $\frac{3}{4}$ et ultra producta, lamina dorsali angusta supra basin sensim evanescente, cellulis firmis pellucidis flavidis subrotundis, illis secus costam sub apice evanidam majoribus. Capsula terminalis, inæquali-oblonga, subinclinata, brevipedicellata.

Hab. Ins. Cuba, in præruptis ad rupes, *Wright*, n. 21.

Caules 8–10-lineares, cum foliis superioribus lineam lati. Folia rigidula, intense viridia, sicca parum mutata.

13. F. RADICANS (*Mont. in Ann. Sc. Nat.* ser. 2. xiv. 345). Humilis. Folia patentia, obscura, nervo pellucidiore sub apice evanido, lamina vera ad medium producta apice subæquali, lamina dorsali vel decurrente vel basi abrupta, laminis omnibus crenulato-subserrulatis, cellulis parvis rotundis. Pedunculus elongatus. Theca ovalis, "operculo conico rostrato longo recto, calyptra conica basi sublacerata, elongate cylindrica angusta; peristomii dentes ad medium usque in crura brevia duo fissa."—*C. Müll. Syn.* ii. 526, Conomitrium.

Hab. Guiana, *Leprieur* ex *Herb. Montagne.* Fl. Amazon, Pará, in lignis, *Spruce*, n. 470.

Caulis 2–3-linearis, siccus recurvus. Folia $\frac{1}{2}$-linearia, 10–12-juga, viridia, mollia, sicca subcrispata. Pedunculus $2\frac{1}{2}$-linearis.

14. F. ASTERODONTIUM (*C. Müll. Syn.* ii. 527). Dioicus, humilis, simplex, siccitate subfalcatus, madefactus strictus. Folia 8-juga; lamina vera inæqualis, una ala medio alterius connata obtusa, brevis; lamina dorsalis basi angusta, sæpe supra basin enata, sensim latior; lamina apicalis acuta; omnes laminæ integræ immarginatæ, parum erosæ, e cellulis crassis æqualiter hexagonis pellucide viridibus inanibus grosse areolatæ, nervo fuscescente sensim ante apicem evanido; folium perichætiale intimum angustum. Theca in pedunculo geniculato adscendente cylindrico-ovalis, ore angustior, operculo conico subulato recto longo, calyptra conica basi laciniata, tenera; peristomii dentes sicci stellatim reflexi, horizontales, madefacti inflexi.—*C. Müll. l. c.*

Hab. Brasilia, Sta. Catharina in sylvis montosis humidis, in terra ad fl. Itajahi, *Pabst.*

15. F. GUIANENSIS (*Mont. in Ann. Sc. Nat.* ser. 2. 340). Dioicus?; caulis simplicissimus declinatus parvulus. Folia 6–8-juga, laxa v. contigua, rarissime vel supreme subimbricata, distiche patentia, infima minima, inde

sensim majora, madore ac siccitate incurvo-secunda crispula, margine infero basin versus in caule non confluentia sed limbo suo rotundato ab eo distantia; lamina folii ad ½ producta; omnes laminæ ubique subtilissime denticulatæ; nervo continuo diaphano percursa, tenuissime subquadrato-areolata, amœne viridia; perichætiale unicum minutum obtusissimum. Theca in pedunculo geniculato-adscendente erecta, oblonga, subinæqualis, sub ore rubro constricta, ob flexuram pedunculi tantillum inclinata, operculo conoideo-acuminato recto; calyptra cucullata; peristomii dentes in crura duo longa pallida fissi, purpurei.—*C. Müll. l. c.*

Hab. Guiana Gallica, ad arborum corticem in summo monte Matouri insulæ Cayennæ, *Leprieur.*

16. F. FLEXINERVIS (*Mitt.*). Caulis brevis. Folia patentia, inter se subremota, sicca curvata, nervo crassiusculo concolori sæpe flexuoso sub summo apice evanido excurrenteve, lamina folii vera apice inæquali, marginibus ubique crenulatis, cellulis rotundatis lævibus. Theca in pedunculo gracili ovalis, sicca sub ore constricta, operculo subulato, peristomii dentibus siccis divergentibus; calyptra fere ad basin operculi descendens, fusca. Flos masculus in ramulo terminalis.

F. rufulus, *Sulliv. in Proc. Amer. Acad.* 1861.

Hab. Fl. Amazon; Pará ad arbores, *Spruce*, n. 485, ad ligna, n. 486, in sylvis ad acervos formicarum, n. 487. Fl. Negro, Sao Gabriel, in acervis formicinis, *Spruce*, n. 481, 482, ad rivulum Canopuna, n. 484; S. Carlos, ad ligna in Caapoceiras, *Spruce*, n. 490; ad cataractam fluvii Tarumá, *Spruce*, n. 493. Fl. Orinoco, ad cataractam Maypures, *Spruce*, n. 489. Andes Peruvianæ, Tarapoto (1500 ped.), *Spruce*, n. 483; in monte Guayrapurina (2500 ped.), ad riv. Shillicaio (1500 ped.). *Spruce*, n. 492. Nov. Granata, in sylvis ad fl. Magdalena ad terram inter radices arborum subversorum adhærentem (500 ped.), *Weir*, n. 389.

Caulis 1–6-linearis. Folia ½-linearia, viridia, sæpe pellucida.

17. F. SUBCRENATUS (*Schimp.*; *C. Müll. Syn.* ii. 531). Dioicus; frondes complures ex eadem basi, 1–1½ lineam alti, oblique imbricati. Folia 5–6-juga, sordide ferruginea, infima minima, superiora majora lanceolata, ad medium duplicata, summa subintegra nervo solido ferrugineo, in summo apice evanescente, cellulis rotundato-hexagonis. Theca in pedunculo basi geniculato brevissimo erecta, oblonga minuta; peristomium *F. bryoidis.*

Hab. Mexico, Mirador, *Liebmann.*

A *F. prionode* proximo foliis brevioribus, latioribus, minus crenulatis, cellulisque duplo majoribus differt.—*C. Müll. l. c.*

18. F. PELLUCIDUS (*Hornsch. in Linnæa*, 1841, 146). Caulis brevissimus simplicissimus adscendens. Folia disticha, erecto-patentia, basi duplicato-fissa, integerrima, immarginata, nervo crasso ferrugineo infra

apicem dissoluto. Seta terminalis, basi geniculata, inde adscendens. Capsula oblonga, operculo convexo subulato recto.

Hab. Surinam.

Caulis fructifer lineam longus. Folia 4-juga retis areolis hexagonis laxissimis. Caulis sterilis vix lineam longus; folia 8–14-juga lineari-lanceolata, apicem versus leniter denticulata. Calyptra minuta, rostrum tegens, angusta, basi irregulariter fissa.—*Hornsch. l. c.*

19. F. INÆQUALIS (*Mitt.*). Caulis brevis. Folia patentia, flaccida, superiora nervo concolori percursa, lamina vera uno latere apice inæquali rotundata, lamina dorsali decurrente, marginibus ubique minute crenulatis, cellulis oblongis ovoideisve lævibus. Theca in pedunculo elongato pallido parva, obovata, operculo magno subulato, peristomii dentibus cruribus angustis, calyptra basi integra, operculum ad ⅔ obtegens. Flos masculus in ramulo brevi basilari.

Hab. Fl. Negro, Sao Gabriel, *Spruce*, n. 538.

Caulis lineam altus, rufulus. Folia ½-linearia, viridia, cellulis satis magnis.

20. F. AMŒNUS (*C. Müll. Syn.* i. 66). Dioicus?, brevissimus, simplicissimus, foliis 3–5-jugis latiusculis planissimis. Foliorum lamina vera brevis; lamina dorsalis basi angusta; lamina apicalis longissima obtusiuscula; omnes partes amœne virides, cellulis sæpe pellucidis, tenere minute hexagono-areolatæ, cellulis ubique prominulis, serrulatæ; nervus crassus, flavus, subexcurrens. Theca cylindrico-ovalis, subinclinata, minutissima, tenera, dentibus brevibus setaque curviusculo-adscendente.

Hab. Columbia, prope Caripe inter *Mnium rostratum, Moritz.*

21. F. SUBULATUS (*Mitt.*). Monoicus?; caulis brevis. Folia remota, erecto-patentia, inferiora subulata, superiora nervo crasso fuscescente in mucronem longiusculum excurrente, lamina vera apice in superioribus inæquali, lamina dorsali in foliis apicalibus inferne angustata, in inferioribus deficiente, marginibus crenulatis, cellulis grossiusculis lævibus pellucidis. Theca in pedunculo longiusculo ovalis, suberecta, operculo subulato, peristomii dentibus parvis humidis inflexis.

Hab. Fl. Negro loco Uanauaca, *Spruce*, n. 477.

Caulis rufulus, adscendens, ½-linearis. Folia mollia. Pedunculus ½-linearis.

22. F. DIPLODUS (*Mitt.*). Dioicus?; caulis elongatus. Folia patentia, nervo subpellucido concolori percursa, lamina vera apice inæquali ad medium producta, lamina dorsali basi rotundata, marginibus ubique tenuissime crenulatis, cellulis obscuris minutis papillosis inter se discretis. Theca in pedunculo foliis duplo longiore cylindracea, horizontalis, sub ore constricta, peristomio dentibus geminatis ad apicem usque adhærentibus octoblepharo, calyptra basi integra, superne papillosa.

Hab. Andes Quitenses, fl. Bombonasa ad ramulos (1200 ped.), *Spruce*, n. 475.

Caulis 3–4-linearis, cum foliis ½ lineam latus. Theca ætate fusca, cylindracea.

23. F. CYLINDRACEUS (*Mitt.*). Caulis elongatus, divisus. Folia patentia, sicca curvata, nervo pellucido percursa, lamina vera ad medium producta apice inæquali, lamina dorsali basi rotundata, marginibus ubique tenuissime crenulatis, cellulis minutis minute papillosis obscuris. Theca in pedunculo folia superiora æquante cylindracea, collo sensim attenuato, operculo subulato, peristomii dentibus fere ad basin in cruribus liberis elongatis angustis erectis fissis; calyptra uno latere fissa. Flos masculus in foliorum caulinorum axillis situs.

Hab. Andes Quitenses, ad fl. Chasuán (3000 ped.), montis Chimborazo, *Spruce*, n. 475 *b*.

Caulis 2–4-linearis, cum foliis lineam latus. Folia pallide viridia. Theca pallida.

24. F. BRACHYPUS (*Mitt.*). Caulis elongatus, ramosus. Folia patentia, sicca decurva, nervo concolori tenui sub apice evanido, lamina vera apice inæquali ad medium producta, lamina dorsali basi decurrente, marginibus ubique crenulatis, cellulis minutis rotundatis lævibus pellucidis. Flores versus caulis apicem in foliorum axillis, fœminei foliis parvis subteneris, lamina apicali brevi angusta. Theca in pedunculo pallido foliis caulinis breviore ovalis, operculo rostrato, peristomio parvo, dentibus inflexis, calyptra uno latere fissa, ad operculi basin descendens.

Hab. Fl. Negro, San Carlos, ad rivuli ostia, in *Polypedo* quodam, *Spruce*, n. 476.

Caulis ½-uncialis longiorque, ut videtur prostratus. Folia fusco-viridia, ½-linearia. Pedunculus curvatus, adscendens.

25. F. PRIONODES (*Mont. in Ann. Sc. Nat.* ser. 2. iii. 200, t. 3. f. 1). Pusillus. Folia patentia, sicca immutata, plurijuga, subopaca, nervo crassiusculo rufo excurrente, lamina vera ad medium producta, laminis omnibus marginibus minute serrulatis, cellulis opacis rotundis. Theca in pedunculo breviusculo minuta, ovalis, operculo subulato; calyptra ad basin operculi haud descendens, multifida.

Hab. Guiana Gallica, *Leprieur* ex *Herb. Montagne.* Andes Peruvianæ, in monte Guayrapurina (2500 ped.), *Spruce*, n. 494; ad fl. Huallaga prope Yurimaguas in terra argillosa, *Spruce*, n. 496. Andes Quitenses, ad fl. Bombonasa (1200 ped.), *Spruce*, n. 495.

Caulis 2-linearis. Folia ½-linearia, fusca, nervo pellucidiore. Pedunculus 1½–2-linearis.

26. F. SIMILIRETIS (*Sulliv. in Proceed. Amer. Acad.* 1861). Gracilis. Folia dense inserta, erecto-patentia, linearia, apice subacuta, lamina vera

æquali, lamina dorsali inferne angustata basi rotundata, integerrima, nervo pellucido percursa, cellulis obscuris areolata. Theca inclinata.

Hab. Ins. Cuba, in scopulis montium, *Wright*, n. 13.

Caulis 3–4 lineas altus, latitudine ⅔-linearis. Folia pallide viridia, fulva, demum fusca, cartilaginea, sicca parum curvata. Pedunculus 2-linearis, pallidus.

27. F. ASPLENIOIDES (*Sw.*; *Hedw. Musc. Frond.* iii. 65, t. 28). Dioicus, caulis elongatus. Folia erecto-patentia, obscura, nervo concolori percursa, lamina vera inæquali uno latere rotundato ultra medium producta, lamina dorsali ut plurimum supra basin desinente, laminis omnibus integerrimis, cellulis minutis rotundis, parietibus incrassatis obscuris. Pedunculus brevis. Theca oblonga, operculo subulato.

F. flabellatus, *Hornsch. in Mart. Fl. Bras.* 91, t. 2. f. 2.

F. turbinatus, *Tayl. in Hook. Lond. Journ.* vii. 190.

Hab. Jamaica, *Swartz.* Andes Novo-Granatenses, Bogota (8500 ped.), ad rupes umbrosas vulgaris sed sterilis, *Weir*, n. 355; prope cataractam Tequendama (7500 ped.); ad rupes, *Weir*, n. 313. Andes Quitenses, *Jameson*; Quito (10,000 ped.), *Spruce*, n. 497; Baños (6000 ped.), *Spruce*, n. 498; Cuesta de Jalupána (9000 ped.), *Spruce*, n. 499; in sylva Canelos (3000 ped.), *Spruce*, n. 500, ibidem (elatior), n. 501, et ad ramulos fl. Bombonasa inundatos (1500 ped.), *Spruce*, n. 506, 507; Lalla ad rivuli ripas (9000 ped.), *Spruce*, n. 502; ad cataractam Agoyan (5000 ped.), *Spruce*, n. 505. Andes Peruvianæ, in monte Picote (5000 ped.), *Spruce*, n. 503; in monte Campana in arena rivulorum (3500 ped.), *Spruce*, n. 504. Ins. Juan Fernandez, *Bertero.* Brasilia, Sierra dos Orgaos, *Gardner.*

Caulis ½–3-uncialis, rarius ramosus. Folia 1–1½-linearia, luteo-viridia, sicca apicibus circinato-revolutis. Pedunculus 2-linearis.

Widely distributed in the southern hemisphere.

28. F. MASCHALANTHUS (*Mont. in Ann. Sc. Nat.* ser. 3. iv. 115). Dioicus, cæspitosus; caulis erectus, innovationibus ramosus, subdichotomus. Folia sub-30-juga, dense imbricata, erecta, lamina apicali obtusa acuminulata, ubique integerrima, nervo subcontinuo albo instructa, stricta. Theca oblongo-cylindrica, operculo convexo rectirostro.—*C. Müll. Syn.* i. 53.

Hab. Chili australis, ad terram, *C. Gay.*

"Flores terminales et laterales, in axilla foliorum v. in dichotomia. Calyptra brunnea, coriacea, cuculliformis. Dentium crures articulati punctato-asperi, non trabeculati."—*C. Müll. l. c.*

29. F. SPHAGNIFOLIUS (*Sulliv. in Proceed. Amer. Acad.* 1861, 275). Dioicus, pusillus, fronde declinata. Folia flaccida, 5–9-juga, conferta, flabellatim expansa, integerrima, cellulis subrhombeis flexuose circumscriptis, utriculo primordiali valde evoluto, duplicatura inæquali vix ½ producta, costa longe infra apicem dissoluta. Capsula terminalis in pedicello

geniculato-adscendente inæquali-oblonga incurva; operculo longe rostrato, calyptram lineari-conicam excedente.

Hab. Cuba, ad terram rufam inter radices arborum subversorum adhærentem, *Wright*, n. 19.

F. tamarindifolio Sm. similis, sed substantia foliorum diversus.

30. F. CAMPYLOPUS (*Mont. in Ann. Sc. Nat.* ser. 3. iv. 116). Caulis decumbens. Folia circa 15-juga, dense imbricata linearia, lamina apicali lanceolata incurva; omnibus (?) partibus subcrenato-denticulatis. Theca resupinata, ovalis, inæqualis, cernua, seta basi geniculata apice curva, operculoque convexo recte rostrato.—*C. Müll. Syn.* i. 66.

Hab. Chili australis, in terra, *C. Gay.*

Flores masculi axillares.

31. F. GENUNERVIS (*C. Müll. Syn.* i. 70). Subcæspitosus, subsimplex, gracilis, elatiusculus. Folia siccitate valde crispula, densiuscule imbricata; folii lamina ad ½ producta e basi oblonga, medio latior, apice attenuata, integerrima, æqualis, ala unica rotundato-obtusa, ad flexuram nervi cum ea connata; lamina dorsalis ad basin nervi enata, apicem versus crescens integerrima; lamina apicalis lanceolato-obtusa apice crenulato denticulata; nervus crassus semel genuflexus, ante apicem evanidus diaphanus; omnes laminæ e cellulis minutis, granulis obscure viridibus impletis, areolatæ.

Hab. Columbia in granitaceis, *Moritz.*

"*F. osmundoidi* ex habitu simillimus, sed foliis apice laminæ apicalis obtuse crenulato-dentatis distinctissimus."—*C. Müll. l. c.*

From the description this would appear to be very near to *F. asplenioides.*

32. F. FLAVINERVIS (*Mitt.*). Caulis elongatus, innovans. Folia patentia, nervo flavo pellucido percursa, lamina vera ad medium producta apice inæquali, lamina dorsali basi rotundata, marginibus ubique tenuissime crenulatis, cellulis fere opacis papillosis. Theca in pedunculo elongato pallido ovalis, suberecta, operculo subulato, peristomii dentibus profunde fissis, humidis arcte inflexis. Flos masculus in ramulo basilari vel in caulis apice.

Hab. Fl. Negro, Sao Gabriel, *Spruce*, n. 542; ibidem in truncis emortuis, *Spruce*, n. 535. Nova Granata ad fl. Magdalena prope Honda, in sylvis ad arborum truncis (600 ped.), *Weir*, n. 413.

Caulis 2-linearis, cum foliis ¾ lineæ latus. Pedunculus lineam vix excedens.

33. F. PALLIDINERVIS (*Mitt.*). Monoicus?; caulis innovans. Folia patentia, approximata, nervo pellucido percursa, lamina vera apice inæquali, lamina dorsali basi rotundata decurrenteve, marginibus crenulatis, cellulis subopacis. Theca in pedunculo elongato ovalis, suberecta, oper-

culo subulato obliquo, peristomii dentibus parvis profunde fissis arcte inflexis.

Hab. Andes Peruvianæ, Tarapoto ad rivulum Marona-yacu (2000 ped.), *Spruce*, n. 536.

Caulis 2–3-linearis. Folia ½-linearia, intense viridia. Pedunculus 1½–2-linearis.

34. F. GARDNERI (*Mitt.*). Minutus, caulis brevis. Folia patentia, nervo pellucido ultra medium evanido, lamina vera uno latere inæquali rotundato ultra medium producta, marginibus ubique minute crenulatis, cellulis opacis minute papillosis.

Hab. Brasilia, *Gardner*.

Caulis lineam altus, cum foliis ½ lineam latus.

35. F. MURICULATUS (*Spruce*). Pusillus. Folia patentia, lamina vera uno latere inæquali, lamina dorsali basi rotundata, margine ubique crenulata, nervo pellucido percursa, cellulis obscuris papillosis aspera. Theca ovalis, operculo brevirostro.

Hab. Fl. Negro, São Gabriel, ad ramulos emortuos, *Spruce*, n. 473. Andes Quitenses, fl. Bombonasa ad ligna, *Spruce*, n. 474.

Caulis lineam altus, cum foliis linea dimidia angustior. Folia glauco-viridia. Pedunculus ½ lineam longus.

The inflorescence is in this species monœcious; but, as in all those of this group, its position on the stem is not uniformly the same, and when basilar, as it frequently is, it is easily overlooked; many have been described as diœcious.

36. F. SEMIMARGINATUS (*C. Müll. Syn.* i. 55). Hermaphroditus, humilis, simplicissimus, 8–10-jugus, apice subfalcatus. Folii lamina basi latiuscula, usque ad apicem et ultra crasso-albido marginata, marginibus flexuosis, integerrima; lamina dorsalis basi angusta, cellulis prominulis serrulata; lamina apicalis folio brevior, nervo excurrente tenui albescente brevicuspidata, reflexiuscula, serrulata, omnes partes albescenti-virides, minutissime areolatæ. Theca ovalis, collo brevi subverrucoso instructa, minuta, tenera, pedunculo curviusculo adscendente operculoque conico rostrato obliquo.

Hab. Columbia, Cocollar inter *Leucobrya* ad radices arborum, *Moritz*.

Basi (foliis minutis) subnudus, apicem versus crescens, apice interdum innovans. Archegonia angustissima brevia circa 6–8, paraphysibus carentia. Antheridia pauca majora ellipsoidea. Folia floralia intima laminis carentia, convoluta, laxius areolata, profunde repanda, cuspidata, integra.—*C. Müll. l. c.*

37. F. HORNSCHUCHII (*Mont. in Ann. Sc. Nat.* ser. 2. xiv. 342). Monoicus, pusillus. Folia patentia, nervo opaco percurrente, lamina vera ad medium usque producta æquali inæqualive, limbo angusto sub apice evanido marginata, lamina apicali dorsalique minute serrulatis. Pedunculus elongatus.

Theca ovalis, "operculo conico recto brevi, calyptra cucullata."—*C. Müll. Syn.* i. 54.

F. serrulatus, *Hornsch. in Mart. Fl. Bras. Musc.* t. 2.

Hab. Brasilia, Sierra d'Estrella, *Beyrich* ex *Hornschuch in Herb. Hooker.*; prov. Goyaz, *Gardner*; Guiana, *Parker*. Fl. Amazon, Pará, *Spruce*, n. 521.

Caulis 1½-linearis, latitudine cum foliis ⅔-linearis. Folia ½-linearia, intense viridia. Pedunculus 1½-linearis.

38. F. LEPTOPHYLLUS (*Mont. in Ann. Sc. Nat.* ser. 2. xiv. 344). Dioicus; caulis humilis procumbens, simplex v. innovando ramosus, flaccidissimus. Folia subvigintijuga, laxe imbricata, flaccida, lamina folii vera ad medium producta, una ala medio laminæ apicalis connata obtusa, infima basi limbo angustissimo albido tenerrimo parum marginata; lamina dorsalis ad basin folii latiuscule enata; lamina apicalis late lanceolata obtusiuscula; omnes laminæ e cellulis pellucidis hexagonis parvis tenerrimis reticulatæ, dilute virentes, cellulis parum prominentibus vix denticulatæ, nervo crassiusculo flavido ante apicem evanido. Theca in pedunculo brevi flavido oblonga, operculo e basi convexa breviter curvirostro; peristomii dentes purpurei, in crura inæqualia duo apice pallida fissi.—*C. Müll. Syn.* ii. p. 530.

Hab. Guiana, ad terram nudam in sylvis humidis montosis Kau, *Leprieur*.

39. F. INTERMEDIUS (*C. Müll. Syn.* i. 56). Monoicus, humillimus, gregarius, simplicissimus. Folia caulina patentia, falcata; lamina folii vera flexuosa, flavo-marginata, integra; lamina dorsalis cellulis prominulis denticulata; lamina apicalis folio brevior cellulis prominulis denticulata, nervo flavo excurrente. Theca ovalis, aperta urceolata, operculo subulato recto.

Hab. Surinam, prope Parimaribo, in locis umbrosis humidis, *Kegel*, n. 501.

Flos masculus in fœminei vicinia, gemmaceus; antheridia parva pauca eparaphysata. Folia perigonialia parva, pellucida, late ovalia, convoluta, apice subulata, integerrima v. crenata.

40. F. INTROMARGINATUS (*Hampe in Linnæa*, xxxi. 531, Conomitrium). Monoicus, parvulus. Folia circiter sexjuga, erecto-patentia, lamina vera usque ad medium folii producta, limbo hyalino marginata, lamina apicalis dorsalisque cellulis prominulis minute erosæ, nervo pellucido percurrente, cellulis opacis. Pedunculus breviusculus. Theca ovalis, subinæqualis. Flos masculus ad pedem caulis fertilis minutus.

Hab. Andes Bogotenses, Tequendama (2500 metr.), *Lindig*, n. 2149.

Caulis 1–1½ lineam altus, cum foliis lineam latus. Folia superiora ½ lineam longa, intense viridia. Pedunculus 2-linearis.

41. F. MORITZIANUS (*C. Müll. in Bot. Zeit.* 1864, 340). "Monoicus, pusillus, flavescens, crispulus, cæspitulosus, simplex. Folia paucijuga, parum crispata, humore stricta sed submicroscopio haud plana, asym-

metrica, nervo albido flexuoso excedente breviter et acute cuspidata vel pungentia, e cellulis minutissimis papillosis punctulatis opacis areolata; lamina folii undulata valde aperta albide limbata integerrima ½ producta; lamina dorsalis ad nervi basin oriunda cum lamina apicali margine ob papillas tenerrime serrulata. Theca in pedunculo geniculato adscendente gracillimo rubente plantam longitudine superante inclinata vel horizontalis, minuta cylindrica, ore parum constricta, operculo e basi parva conico-cupulata oblique rostrato."

Hab. Venezuela, *Moritz.*

"Gemma antherigera in ramulo basilari brevissimo terminalis. Ex habitu *F. incurvi,* sed foliis semilimbatis foliisque minutissime areolatis jam toto cœlo diversus. Calyptram non vidi, ex operculi forma autem dimidiata erit."—*C. Müll. l. c.*

42. F. ELEGANS (*Brid.* ii. 691). Monoicus, pusillus. Folia patentia, sicca secunda, curvata, nervo pellucidiore percurrente, lamina vera ultra medium producta inæquali, limbo angusto marginata, minute sed dense serrulata. Pedunculus breviusculus. Theca oblonga.

F. elegans, *Schwægr.* i. pars ii. 7.

Skitophyllum elegans, *La Pyl. in Desv. Journ. Bot.* 1814, iv. 152, t. 39. f. 18.

F. cuspidulatus, *Sulliv. in Proc. Amer. Acad.* 1861.

Hab. Ins. San Domingo, *Schwægrichen in Herb. Hooker.*; Jamaica, *Wilds*; Cuba, *Wright,* n. 16; Taboga, *Seemann.* Fl. Negro, São Gabriel ad saxa, *Spruce,* n. 478. Andes Peruvianæ, in monte Guayrapurina (9000 ped.), *Spruce,* n. 543.

Caulis 2-linearis. Folia ½-linearia. Pedunculus 2-linearis.

This species, very well figured by La Pylaie as above quoted, is, however, incorrectly referred to in his description as being figured in pl. 36, in which his *Skitophyllum gracile* is represented, and the references in Bridel and in C. Müller's 'Synopsis' are both incorrect. Schwægrichen describes the species as his own, without any reference to Bridel or to La Pylaie, who had preceded him.

43. F. DENSIRETIS (*Sulliv. in Proc. Amer. Acad.* 1861). Gracilis, rigidulus. Folia angusta, linearia, subacuta, lamina vera apice inæquali a medio usque ad basin limbata, lamina dorsali basi in caule decurrente, margine minute crenulata, cellulis densis opacis areolata, nervo pellucidiore percursa. Theca oblonga, inclinata.

Hab. Ins. Cuba, in rivulis exsiccatis, *Wright,* n. 15.

Caulis 3–6 lineas altus, latitudine cum foliis ½-linearis. Folia intense viridia, nigrescentia, sicca parum flexa. Pedunculus lineam longus.

44. F. SPLITGERBERIANUS (*Dozy et Molk. Prod. Fl. Bryol. Surinam,* 4, t. 1). Monoicus, pusillus. Folia plurijuga patentia, nervo viridi pa-

rum pellucidiore excurrente, lamina vera ad medium producta, cellulis parvis rotundatis plerumque opacis ad margines prominulis, minutissime crenulata. Pedunculus brevis, fuscus. Theca ovalis, operculo breviter subulato.

Hab. Surinam, *Splitzgerber*, ex *Herb. Dozy et Molkenboer.* Fl. Negro, São Gabriel, *Spruce*, n. 472.

Caulis 1½–2-linearis. Folia ½-linearia, 12-juga, viridia. Pedunculus 1½-linearis.

45. F. DIMORPHUS (*C. Müll. Syn.* ii. 533). Dioicus, pusillus, simplex. Folia caulis fertilis 8–10-juga, sterilis circa 18-juga, crispa, apice caulis subfalcata, madefacta stricta, lanceolata dimorpha; perichætialia lamina folii vera albido-marginata, caulina lamina immarginata; omnia nervo excurrente albido prædita; laminæ cæteræ immarginatæ, e cellulis minutissimis viridibus opacis areolatæ subintegerrimæ. Theca in pedunculo geniculato-adscendente brevi ovalis, parva, subrecta.—*C. Müller.*

Hab. Brasilia, ins. Sta. Catharina, ad lapides sylvarum montosarum densissimarum prope Destero, *Pabst.*

F. Hornschuchii habitu similis, sed notis laudatis sat diversus.—*C. Müll. l. c.*

46. F. SCALARIS (*Mitt.*). Monoicus; caulis fertilis brevissimus, foliis tri- quadrijugis, sterilis elongatus angustior. Folia octo- vigintijuga, nervo concolori percurrente, lamina vera lata æquali ultra folii medium producta, limbo indistincto marginata, lamina apicali dorsalique inferne angustatis, integerrima, cellulis diversiformibus; folia in caule fertili inferiora late ovata, acuta, complicata (lamina vera), superiora lineari-elongata, acuta. Pedunculus elongatus. Theca ovalis, operculo brevirostro. Flos masculus gemmæformis, ad caulis pedem.

F. brevifolius, *Hook. fil. et Wils. Fl. Nov. Zeal.* 61, in adnot.

Hab. Andes Chilenses, Mendoza, *Gillies.* Andes Quitenses, Chimborazo, *Spruce.*

Caulis sterilis 2-linearis, cum foliis linea dimidia angustior. Folia ¼-linearia. Caulis fertilis ½-linearis. Folia ½-linearia. Pedunculus 1¼-linearis.

The habit of this species agrees with that of *F. tamarindifolius*, Sm., and *F. brevifolius*, H. f. et W.; there is also an allied species found in South Africa: all produce elongated, slender sterile stems with short leaves, the fertile stems being very short, with few and longer leaves.

47. F. TENUIFOLIUS (*Mitt.*). Monoicus; caulis brevis. Folia patentia, nervo pellucidiore excurrente, lamina vera ultra medium producta apice inæquali, dorsali basi rotundata apicalique tenuiter serrulatis, cellulis minutis minute papillosis. Theca in pedunculo elongato horizontalis, ovalis,

operculo subulato, peristomii dentibus humidis in conum appressis; calyptra tubulosa, basi integra.

Hab. Andes Peruvianæ, in monte Campana (4000 ped.), *Spruce*, n. 533.

Caulis lineam altus, cum foliis lineam latus. Folia longiora ⅔-linearia, pallide viridia, tenera, obscura. Pedunculus 2-linearis.

Statura habituque *F. semimarginato* similis.

48. F. PSATYROCHEILON (*Schlph. in Bot. Zeit.* 1855, 424, Conomitrium). Dioicus, simplex, interdum innovationibus ramosus, humilis, decumbens, sordide viridis; caulis sterilis 10–16-jugus, laxissime foliosus, fertilis 4–6-jugus. Folia siccitate planiuscula, apice subincurva, madefacta difficile emollescentia, erecto-patentia, lanceolata; lamina vera æqualis, plus minus ventricose excavata, præsertim in planta sterili, supra medium producta, acutiuscula, limbo flavido, crassiusculo, facile solubili, flexuoso, integerrimo cincta; lamina dorsalis basi angusta, apicem versus latior; lamina apicalis folio brevior, nervo flavido-rufescente excurrente acuminata, cum lamina dorsali cellulis prominulis minutissime denticulata, laminæ omnes e cellulis minutissimis opacis areolatæ; folia perichætialia similia, sed magis acuminata. Pedunculi 1–3, terminales, perbreves, genuflexi, flavidi, recti. Theca æqualis, cylindrica, deoperculata subglobosa; operculum conicum, subito recte et longe rostratum; calyptra angusta, cylindrica, interdum fissa, straminea; peristomii dentes cruribus longis flavescentibus granulosis, madefacti perfecte incurvi.

Hab. Trinidad, prope St. Anne inter Jungermannias parvas sparsim, *Crüger*.

"F. (*Conomitrio*) *semilimbato* proximus, inflorescentia autem, margine laminæ veræ angustiore, flavido, integro et planta sterili refugit. E foliorum structura *F. intermedio* quoque valde affinis, sed areolatione foliorum minutissima, et calyptra conico-cylindrica diversus."—*Schlph. l. c.*

49. F. TORTILIS (*Hampe et C. Müll. in Bot. Zeit.* 1864, 340). "Dioicus, pusillus, flavescens, crispulus, simplex. Folia paucijuga, inferiora remota, superiora comoso-conferta, madefacta parum crispulato-undulata, ubique albide limbata subintegerrima, lamina dorsali ad basin anguste enata, lamina folii vera latius limbata, lamina apicali nervo albide in mucronulum brevissimum dissoluto, cellulis minute hexagonis subopacis senectute solum pellucidioribus; perichætialia prioribus conformia. Theca in pedunculo subgeniculato adscendente purpurascente brevi erecta, parvula, oblonga, æqualis, siccitate constricta, operculo conico acuto obliquo, annulo maxime angusto persistente."

Hab. Mexico.

"Antheridia pauca in planta propria foliis latioribus instructa terminata. Ob annulum thecæ staturamque *F. Bloxami* (*F. exili*) proximus." —*C. Mull. l. c.*

50. F. PSEUDOBRYOIDES (*Schlph. in Bot. Zeit.* 1855, 424). "Dioicus, pusillus, humifusus, planus, simplex, subviridis. Folia 4–6-juga;

lamina vera æqualis ad medium producta et longe acuminata, limbo crasso, albido, integro marginata, laxius areolata; lamina dorsalis basi angustissima, sensim latior, cum lamina apicali lanceolata, nervo subviridi crassiusculo, recto, exeunte vix mucronata; omnes laminæ integerrimæ, pellucide marginatæ, e cellulis rhomboidalibus reticulatæ. Pedunculus terminalis, e basi geniculata rectus, tenuis, rubens, sensim in thecam rectam angustam cylindricam incrassatus, operculo e basi conica subulato, obliquo, theca breviore; calyptra juvenilis conico-angusta ad medium usque fissa, matura perfecte dimidiata, tenera; peristomii dentes purpurei, madefacti inflexi."

Hab. Brasilia; ins. Sta. Catharina, in argilla rubra sylvarum prope Destero, *Pabst*, n. 319.

"Habitu *F. Kegeliano* proximus, sed foliis multo densius areolatis, albide marginatis (*F. Kegeliani* folia marginem flavescenti-viridem marginata præstant), obtusiusculis, et operculo obliquo certissime refugiens."—*Schlph. l. c.*

Caulis lineam altus, obliquus. Folia longiora lineam longa, lineari-elliptica, apicibus acutis vel obtusiuscule acutis, cellulis minutis pellucidis limitibus crassiusculis obscuris; perichætialia lamina vera uno latere ad nervum sensim angustato. Pedunculus 1½-linearis. Theca operculo subæquilongo.

51. F. KEGELIANUS (*C. Müll. Syn.* i. 49). Monoicus, pusillus. Folia 4–6-juga, nervo concolori percurrente, lamina vera æquali usque ad medium producta, laminis omnibus limbo angusto concolori marginatis, cellulis parvis rotundis, parietibus crassiusculis obscuris. Pedunculus elongatus. Theca ovalis, operculo subulato subæquilongo.

Hab. Ins. Trinidad, *Crüger*, ex *Herb. Müller*; Sti. Vincentis, *Guilding*. Fl. Amazon, Pará, *Spruce*, n. 523; fl. Negro, San Carlos, *Spruce*, n. 524; Surinam, *Kegel*.

Caulis lineam altus. Folia longiora lineam longa, pallide viridia. Pedunculus 3-linearis.

Inflorescence monœcious in all the specimens, but described originally as diœcious.

52. F. ANGUSTIFOLIUS (*Sulliv. in Proc. Amer. Acad.* 1861, 275). Monoicus, "pusillus, conferte flabellatim foliosus. Folia integerrima, duplicatura semiproducta, lamina dorsali ad basin desinente, costa cum apice dissoluta. Capsula terminalis ovali-oblonga seu oblongo-obovata; operculo capsulam excedente; calyptra dimidiata, operculum vix tegente." Flos masculus axillaris, antheridium unicum fovens.

Hab. Ins. Cuba, in sylvis densioribus ad terram locis humidis, *Wright*, n. 18; Trinidad, *Black*.

Caulis 1–2-linearis. Folia longiora 1¼-linearia. Pedunculus 3-linearis.

53. F. MONANDRUS (*Mitt.*). Monoicus, subacaulis. Folia flabellatim disposita, quadrijuga, nervo concolori percurrente, lamina vera ad medium producta æquali, cellulis rotundis limitibus crassis obscuriusculis.

Pedunculus brevis. Theca ovalis, erecta, operculo subulato æquilongo. Flos masculus in foliorum axillis antheridium unicum fovens.

F. minutulus, *Sulliv. in Proc. Amer. Acad.* 1861.

Hab. Ins. Cuba, *Wright*, n. 11.

Folia ¾-linearia, viridia, subpellucida. Pedunculus rufus, 1½-linearis.

54. F. SCARIOSUS (*Mitt.*). Monoicus, caulis brevis. Folia pauca, patentia, majora nervo tenui concolori evanido, lamina vera ad medium producta apice inæquali, lamina dorsali basi decurrente, marginibus ubique integerrimis, cellulis ad margines in membranam cartilagineam tenuem conflatis. Theca in pedunculo elongato rubro ovalis, erecta, operculo satis magno rostrato, thecam longitudine æquante, peristomii dentibus cruribus elongatis angustissimis; calyptra operculum ad basin tegens, basi pluries fissa.

Hab. Andes Peruvianæ, Lamas ad terram, *Spruce*, n. 537.

Caulis 1½-linearis, subrufus. Folia circiter sexjuga, majora lineam longa, tenera, rigida, subnitida. Pedunculus 3-linearis. Theca parva, evacua subpellucida, textura laxe cellulosa.

55. F. LONGIFOLIUS (*Brid.* ii. 682). Cæspitosus, pusillus, simplicissimus, decumbens, filiformis. Folia 5–6-juga, dissita, patentia, superiora (pro plantulæ exiguitate) longissima, lamina folii ad medium producta; lamina apicali lineari-lanceolata, nervo continuo pellucido acuta, laminis omnibus amœne viridibus. Seta filiformis. Theca ex ovali subrotunda, ore contracta exigua.—*C. Müll. Syn.* i. 65.

Skitophyllum longifolium, *La Pyl. in Desv. Journ. Bot.* iv. (1814) 150, t. 38. f. 3.

Hab. Hispaniola, *Poiteau.*

56. F. PALMATUS (*Sw.*; *Hedw. Musc. Frond.* t. 30 A). Monoicus, pusillus. Folia sexjuga, patentia, nervo percurrente, lamina vera usque ad medium producta æquali, laminis omnibus limbo angustissimo marginatis. "Pedunculus elongatus. Theca oblonga, curvata, horizontalis," operculo conico subulato subincurvo, calyptra subulata minutissima. Flos masculus ad caulis pedem gemmiformis.

Dicranum palmatum, *Sw. Fl. Ind. Occ.* iii. 1774.

Hypnum, *ejusd. Prodr.* 141.

Skitophyllum, *La Pyl.* t. 38. f. 6.

Hab. Jamaica, *Swartz in Herb. Hooker.*

Caulis lineam altus. Folia lineam longa. Pedunculus 2-linearis.

The male flower is described as terminal on a separate plant in C. Müller's Syn. i. 48; and probably, as in many other instances in the genus, it is variable in its position.

57. F. DISSITIFOLIUS (*Sulliv. in Proc. Amer. Acad.* 1861, 274). Dioicus, simplex, erectus, mollis, remotifolius. Folia fere ad apicem subdenticulatum anguste marginata, lamina dorsali lata ad basin sensim vel abrupte

desinente, cellulis hexagono-rotundatis (iis duplicaturæ basilaribus oblongis amplioribus) areolata, costa infra apicem evanescente. Capsula terminalis, ovali-oblonga, operculo longirostrato; calyptra dimidiata.

Hab. Cuba, in umbrosis ad rupes humidas, *Wright*, n. 14.

Caulis ½-uncialis, cum foliis lineam latus. Folia lineam longa, flaccida, sordide viridia. Theca inclinata.

La Pylaie's figure of his *Skitophyllum longifolium* gives a fair idea of *F. dissitifolius.*

58. F. MOLLIS (*Mitt.*). Dioicus, humilis. Folia patentia, laxa, mollia, nervo angusto obscuro sub apice evanido, lamina vera æquali ad medium producta, lamina dorsali basin versus angustata, laminis omnibus limbo angustissimo concolori ubique marginatis, cellulis superioribus ovali-rotundis, inferioribus parum longioribus, limitibus angustis. Pedunculus breviusculus. Theca parva, ovalis, operculo rostrato.

Hab. Ins. Jamaica, *Wilson*, n. 152.

Caulis 2-linearis, cum foliis 2 lineas latus. Folia 1⅔-linearia, sexjuga. *F. dissitifolio* similis sed major.

59. F. MACROPHYLLUS (*Mitt.*). Caulis humilis. Folia patentia, laxa, nervo concolori sub apice vel in apice ipso evanido, lamina vera apice æquali acuta ad medium producta, lamina dorsali basin versus anguste decurrente, marginibus ubique tenuiter concolori limbatis. Theca in pedunculo rubro ovalis, subæqualis, suberecta horizontalisve, operculo subulato curvirostrato, peristomii dentibus humidis inflexis; calyptra infra basin operculi descendens, latere fissa.

Hab. Ins. Trinidad, *Black*. Andes Peruvianæ, Tarapoto (1500 ped.), *Spruce*, n. 531. Andes Quitenses, ad fl. Bombonasa (1300 ped.), *Spruce*, n. 532.

Caulis 3-linearis. Folia 2-linearia, humida plana recurva, sicca luteo-viridia fuscescentia. Pedunculus fere 4-linearis. Theca parva.

F. palmato similis et magnitudine cellularum conveniens, sed major et theca fere erecta.

60. F. CRISPUS (*Mont. in d'Orbigny, Voy.* vii., *Crypt.* 97). Caulis subsimplex, erectus, filiformis, longiusculus, flexuosus, innovationibus divisus. Folia 15–20-juga, siccitate madoreque crispatissima, secunda; folii lamina ultra medium producta; lamina apicalis oblongo-lanceolata; omnes partes integerrimæ, margine incrassato hyalino nervoque excurrente instructæ, viridi-lutescentes, tenuissime areolatæ. Pedunculus flexuoso-erectus. Theca ovali-oblonga, inæqualis, horizontalis, operculo conico-acuminato recto.—*C. Müll. Syn.* i. 61.

Hab. America meridionalis, prov. Corrientes ad terram arenosam in collibus sylvaticis secus flumen Sanctæ Luciæ societate *Physcomitrii Orbigniani* Mont., *D'Orbigny.*

Folia perichætialia intima subscalpelliformia, undulata, magis acuta, elamellosa. Theca olivacea, tandem brunnea, ore purpureo.—*C. Müll. l. c.*

61. F. TEQUENDAMENSIS (*Mitt.*). Dioicus?, pusillus; caulis brevis. Folia circiter quadrijuga, nervo obscuriore percurrente, lamina vera æquali ad medium producta, laminis omnibus limbo cartilagineo concolori marginatis. Pedunculus gracillimus, elongatus. Theca ovalis, horizontalis, operculo rostro breviore.

Hab. Andes Novo-Granatenses, prope cataractam Tequendama, in declivibus, *Weir*, n. 319.

Caulis ½-linearis. Folia ½-linearia, pallide viridia, subnitida. Pedunculus 6-linearis. Theca minuta.

62. F. LINDIGII (*Hampe in Linnæa*, xxxi. 532, Conomitrium). Monoicus, parvulus, rufescenti-viridis; caulis fertilis basilaris, brevis, paucifolius. Folia inferiora breviora, superiora longiora, e basi amplectante erecto-patula; caulis sterilis subsimplex, elongatus, multijugus, rigidulus, siccitate parum curvatus. Folia inferiora brevia, remota, ovata, acuminata, cætera lineari-lanceolata dissite alternantia, nervo solido flavido percursa, in apice limbo angusto flavido continuo confluente cuspidata, integerrima, cellulis incrassatis subrotundis lutescentibus parum diaphana, lamina latere interiore aperta, folio æquali, lanceolata, supra medium educta, cellulis densioribus opaca. Seta adscendens, gracilis, fere semiuncialis, pallide flavescens, nitida, parum tortilis, apice incrassata. Theca curvata, oblique obovata, sub ore plus minusve constricta, rufescenti-viridis, operculo conico subulato pallidiore, calyptra conico-subulata concolori obtecta, dentibus peristomii profunde bifidis apice recurvis.

Hab. Nov. Granata, Tequendama (2500 met.), cum *F. intromarginato*, *Lindig*, n. 2149.

63. F. ANGUSTE LIMBATUS (*Mitt.*). Monoicus, caulis elongatus. Folia inter se remotiuscula, patentia, obscura, nervo infra apicem evanido, lamina vera æquali ad medium producta, lamina dorsali nec angustata nec decurrente, laminis omnibus limbo angustissimo inconspicuo marginatis, cellulis minutis pellucidis, parietibus crassioribus obscuris. Pedunculus elongatus. Theca oblonga, arcuata, horizontalis, operculo conico acuminato. Flos masculus in foliorum caulinorum axillis.

Hab. Brasilia, prov. Parana prope Corritiba (2000 ped.), in sylva ad rivuli ripas, *Weir*, n. 19.

Caulis ½-uncialis, cum foliis lineam latus. Folia lineam longa, viridia, subflaccida. Pedunculus 3-linearis.

64. F. REPANDUS (*Wils. in Hook. Kew Journ.* iii.). Dioicus, humilis. Folia inter se remotiuscula, nervo pellucidiore percurrente, lamina vera æquali ad medium producta, lamina dorsali inferne angustata, laminis omnibus limbo pallido marginatis integerrimis, cellulis minutis rotundis obscuris. Pedunculus elongatus. Theca ovalis, subæqualis, operculo acuminato.

F. minutulus, var., *Sulliv. in Proc. Amer. Acad.* 1861, 274?

Hab. Andes Quitenses, *Jameson*, n. 12, in monte Chimborazo, *Jameson*, et in terra saxisque umbrosis, *Spruce,* n. 519, in monte Tunguragua (7000 ped.), *Spruce,* n. 515, 527, Pichincha (10,000 ped.), n. 516, Cusitagua (8000 ped.), n. 517, Baños (6000 ped.), n. 518, ibidem in arboribus vetustis, n. 526. Fl. Amazon, ad fl. Aripecuru, *Spruce,* n. 546. Ins. Cuba, *Wright,* n. 12.

Caulis 3–4-linearis, cum foliis circiter lineam latus. Folia lineam longa, viridia, sicca curvata. Pedunculus 2½–3-linearis.

F. ceylonensi Dozy et Molk. Bry. Javan. t. 3, simillimus, theca autem inæqualis.

65. F. LINDBERGII (*Mitt.*). "Dioicus, late cæspitosus, pusillus, læte virens, simplex, flaccidus, tener. Folia parum conferta, stricta, siccitate flaccida tenera, mucrone quam maxime brevissimo acuto brunneo terminata, limbo albido vel dilute rubente validiusculo integerrimo ubique marginata, nervo valido albido genuflexo longe infra apicem interdum furcato evanido percursa, e cellulis laxis utriculo primordiali repletis; lamina folii ½-producta longe acuminata symmetrica, lamina dorsalis ad nervi basin anguste egrediens."

Conomitrium acutifolium, *Lindberg in sched.*; *C. Müll. in Bot. Zeit.* 1864, 347.

Hab. Brasilia, ad Rio de Janeiro plantam fœmineam sterilem legit *G. A. Lindberg.*

"A *F.* (*Conomitrio*) *palmato* proximo nervo dissoluto, a *F.* (*Conomitrio*) *pellucido* foliis limbatis jam toto cœlo diversus, elegantissimus."—*C. Müll. l. c.*

66. F. RIGIDULUS (*Hook. f. et Wils. Fl. Nov. Zel.* 61, t. 83. f. 3). Dioicus; caulis elongatus. Folia patentia, inter se remotiuscula, nervo minus obscuro percurrente, lamina vera ad medium producta æquali, laminis omnibus limbo crassiusculo subpellucido rigido marginatis. Pedunculus brevis. Theca parva, ovalis, inæqualis, operculo subulato.

F. Lechleri, *Hampe in Bot. Zeit.* 1864, 340.

Hab. Andes Novæ Granatæ, prope Bogota in declivibus rupestribus humidis, *Weir,* n. 354. Andes Chilenses, Cordillera de Raneo prope Sichahue, in locis scaturiginosis, *Lechler.*

Caulis ½–1-uncialis altiorque, cum foliis lineam latus. Folia lineam longa, sicca parum mutata, firma, cartilaginea, viridia. Pedunculus 3-linearis.

67. F. WEIRI (*Mitt.*). Dioicus?, humilis. Folia plurijuga, æqualia, patentia, nervo pellucido percurrente, lamina vera æquali ad medium usque producta hyalino-limbata, lamina dorsali basi abrupta rotundata apicalique limbo infra apicem minutissime crenulatum evanescente marginatis, cellulis minutis rotundis, parietibus crassis obscuris. Pedunculus brevis, folia superiora longitudine æquans. Theca cylindracea, operculo subulato; calyptra subulam operculi tegens, basi crenata.

Hab. Brasilia, prov. Parana, Fazenda de Lageada, in arborum truncis, *Weir*, n. 24.

Caulis 2-linearis, latitudine cum foliis lineam parum excedens. Folia lineam longa, viridissima. Pedunculus lineam longus. Theca ½-linearis.

68. F. RETICULOSUS (*C. Müll. Syn.* ii. 525). Monoicus, minutulus. Folia 3-juga, lamina apicali folium æquante, anguste marginata, integerrima, nervo angusto viridi longe sub apice evanido. Theca minima, ovata, hic illic erecta, brunnea, operculo magno longiore, ore angusto pallido, calyptra operculum tantum obtegente conica; peristomii dentes longi, angusti.—*C. Müll. l. c.*

Hab. Mexico, Mirador, *Liebmann*.

117. SORAPILLA, Spruce et Mitt.

S. SPRUCEI (*Mitt.*). Caulis irregulariter subpinnatim ramosus, basi radicellis purpureis paucis vestitus. Folia bifariam imbricata, equitantia, patenti-incurva, lateraliter visa lineari-ligulata, verticaliter explanataque ovata, cymbiformi-excavata (lamina vera), lamina apicali subovata acuta dorso decurrente, nervo pellucido paulo ultra apicem laminæ veræ producto, marginibus laminæ veræ a paulo supra basin fere ad apicem usque limbo lato flexuoso tenero hyalino e cellulis oblongis rectangulis parietibus angustissimis hyalinis areolato ornatis, ubique integerrimis; cellulis minutis rotundis inter se remotis lævibus; folia ubique subpellucida. Fructus in ramis ramulisve lateralis, ramulo proprio brevissimo; foliis perichætialibus erectis ovato-oblongis complicatis basi enerviis, apice lamina apicali angulato-subserrulata mucronatis, in carinaque ad medium folii longitudinis descendente, cellulis elongatis firmis. Theca immersa, oblonga, brevissime pedicellata, castanea, subplicata, operculo acuminato brevirostro; peristomii dentes 16, elongati, angusti, rubri, inferne articulationibus irregularibus striatuli, rarius pertusi, basi brevissime coaliti, annulus compositus; calyptra conica, operculi rostrum tegens, basi multifida, superne ramentis paucis obtecta. Flos masculus apicalis gemmæformis, diphyllus, antheridia 10 paraphysibus paucis intermixtis.

Hab. Andes Quitenses, in monte Abitagua, *Spruce*, n. 559.

Caulis 2-uncialis, ramis ¼–½-uncialibus sparsis ramosus, latitudine cum foliis 1–1½-linearis. Folia lineam longa, lutea, glauca, sicca, parum recurva. Theca parva, ½ lineam longa, leptoderma, intense colorata.

Apud Indos Maynenses, in radicibus Andium orientalibus, *Sorapilla* nomen genericum est quod " Muscum " vult dicere.—*Spruce.*

118. EUSTICHIA, Brid. ii. 674.

E. LONGIROSTRIS (*Brid.* ii. 674, Phyllogonium). Cæspitosa; caulis inferne simplex vel inter radices divisus; superne distiche subpinnatim ramosus. Folia inferiora sparsa, erecto-patentia, trifaria, hastato-ovata, acuminata, nervo crassiusculo excurrente, marginibus crenulatis, superiora

subdistiche imbricata pauca minora inordinatim disposita hic illic interjecta, patentia, apicibus incurvis, ovata, complicata, carinata, nervo excurrente, marginibus crenulatis, cellulis parvis quadrato-rotundis; perichætia aggregata, foliis ovatis lanceolatisque acuminatis convolutis integerrimis. Pedunculus elongatus. Theca ovalis, æqualis, erecta, sicca plicata, operculo longo oblique subulato; peristomii dentes elongati angusti, per medium plus minus fissiles striatuli.

Diplostichum longirostrum, *Mont. Ann. des Sc. Nat.* ser. 3. iv. 116.
Didymodon distichus, *Schwægr.* t. 183.
Cymbaria Jamesoni, *Tayl. in Hook. Lond. Journ.* vii. 190.
Eustichia Jamesoni, *C. Müll. Syn.* ii. 523.

Hab. Andes Quitenses, in montibus Pichincha et Chimborazo, *Jameson*; in montibus Tunguaragua, Carguairazo et Pichincha (9000–12,000 ped.), *Spruce*, n. 1.

Caulis ½–1½-uncialis. Folia vix ½ lineam longa, glauca, luteo-viridia, interdum flavescentia, primo visu exacte bifaria, accuratius autem investigata hic illic unum invenitur ex ordine exclusum. Pedunculus 8–10-linearis. Theca nigro-fusca subnitida.

Remote as the first station of this moss, in the Island of Bourbon, is from that in the Andes, small barren specimens from the Island of Tristan da Cunha correspond, to all appearance, exactly with the South-American ones.

Tribus XX. POLYTRICHEÆ.

119. ATRICHUM, Pal. de Beauv. Prodr.

Musci subhumiles, caulibus gracilibus parum divisis. Folia ligulata, versus flores sensim longitudine increscentia, siccitate crispata, pagina externa sæpe lamellis paucis angustis obliquis rarius rectis striata, nervo angusto anguste paucilamellato, cellulis rotundatis areolata. Thecæ tenuipedunculatæ, elongate anguste cylindraceæ, rectæ curvatæve, calyptris apice setis paucis inspersis.

Flores monoici .... 1. *A. polycarpum.*
Flores dioici.
  Folia perichætialia longa, basi laxe elongate reticulata. 2. *A. Œrstedianum.*
  Folia perichætialia lineari-subulata, basi cellulis brevibus oblongis areolata .... 3. *A. pastasanum.*

1. A. POLYCARPUM (*Schimp., C. Müll. Syn.* ii. 558, Catharinea). **Folia patentia, spathulato-lanceolata, undulata, apice obtusiuscula, pagina inferiore dentibus oblique dispositis, nervo extus sub apice parce dentato,**

marginibus anguste fusco-limbatis, denticulis simplicibus geminisve serratis, cellulis rotundato-hexagonis grossiusculis; perichætialia perigonialiaque caulinis similia. Theca arcuata, operculo rostro angusto elongato. Flos masculus ad fœminei latus.

Hab. Mexico, Huatuasco, *Liebmann*; prope Xalapa, *Deppe et Schiede*, *Lieboldt*. Andes Bogotenses (2000–2700 metr.), *Lindig*; in sylvis prope Pacho (5500 ped.), *Weir*, n. 267. Andes Quitenses, in valle fl. Pastasa ad rivulum Verde (4500 ped.), *Spruce*, n. 1494.

Caulis uncialis. Folia sensim superne longiora, comalia 3–4-linearia, viridia fuscescentia, sicca crispata. Pedunculus 1–1½-uncialis.

2. A. ŒRSTEDIANUM (*C. Müll. Syn.* ii. 558, Catharinea). Cæspitosum, subelatum, simplicissimum, basi tomento albido præditum. Folia caulina ligulato-lanceolata, sicca valde crispata, madore erecto-patula, brunnescentia, difficile emollienda, dorso dentibus fuscis sparsis remotis obtecta, limbo angusto fusco dentibus semper duplicatis fuscis serrato prædita, grossius areolata, nervo crasso fusco excurrente, dorso superne dentato, intus vix lamelloso; omnia madore undulata. Theca in pedunculo elongato brunneo-atro lævi parum inclinata, anguste elongate cylindrica, subarcuata, ante orificium dilatatum angustata, operculo conico oblique rostrato; peristomium breve.

Hab. America centralis, Costa Rica, in regione montosa (5000–8000 ped.), *Œrsted*.

Folia perigonialia floris masculi discoidei terminalis e basi latissime ovata pallida laxe reticulata, in acumen breve incurvum opacum producta, limbo tenuissimo superne irregulariter simpliciter vel duplicate serrato prædita, dorso lævia; intima brevia obcordata; antheridia numerosissima, magna, clavata, paraphysibus pallidis tubulosis permultis cincta. — *C. Müll. l. c.*

3. A. PASTASANUM (*Mitt.*). Folia patentia, undulata, ligulato-lanceolata, sensim acuta, apice obtusiuscula acutave, pagina inferiore denticulis pluribus oblique dispositis, nervo intus breviter paucilamellato extus denticulato, limbo tenui denticulis simplicibus geminisve marginata, cellulis rotundatis; perichætialia interna e basi lata subovali subito subulato-linearia, caulinis angustiora. Thecæ ex eodem perichætio singulæ pluresve, in pedunculis rubris inclinatæ, operculo longe subulato.

Hab. Andes Quitenses, in valle fl. Pastasa ad rivuli Blanco ostia (5000 ped.), *Spruce*, n. 1493.

Caulis 1–2-uncialis. Folia viridia fuscescentia, sicca crispata, 4-linearia. Pedunculus 1½-uncialis.

120. OLIGOTRICHUM, Lam. et DC. Fl. Fr. i. 472.

Musci humiles vel subhumiles, caulibus simplicibus. Folia subrigida, nervo intus lamellato. Thecæ breviusculæ, æquales, inclinatæ, calyptra nuda vel setis paucis inspersa.

Folia integerrima .... 1. *O. canaliculatum.*
Folia dentata vel erosa.
  Folia oblonga obtusiuscule acuta, margine erosa. 2. *O. erosum.*
  Folia ligulata apice obtuse acuta dentata ...... 3. *O. Riedelianum.*

1. O. CANALICULATUM (*Hook. Bot. Beech. Voy.* 54, Polytrichum). Caulis brevis. Folia e basi erectiore patentia, ambitu lanceolata, apice obtusa, marginibus superne incurvis, canaliculata, dorso lævia, nervo e medio ad apicem lamellato, cellulis basi elongatis pellucidis, superioribus rotundatis obscuriusculis; perichætialia conformia, basi vaginantia. Theca ovato-cylindracea, curvata, inclinata, operculo subulato.—*Schwægr.* t. 324.

Polytrichum Molinæ, *Mont. in Ann. Sc. Nat.* ser. 3. iv. 102, *et in C. Gay, Chili, Crypt.* t. 4. f. 3.

Catharinea Molinæ, *C. Müll. Syn.* i. 198.

Hab. Chili, *Lay et Collie, Pœppig, C. Gay*; ad Valdiviam, *Lechler*, n. 397; ins. Chiloe, *Lobb.*

2. O. EROSUM (*Hampe in Linnæa,* xxxii. 146). Caulis brevis. Folia inferiora late ovalia obtusa, nervo supra lamellis paucis obtecto percurrente, margine cellulis prominulis erosa, superiora longiora; perichætialia a basi angustiore erecta, oblonga, obtuse acuta, margine flexuosa. Theca breviter ovalis, inclinata, operculo rostrato, calyptra glabra.

Hab. Andes Bogotenses, in sylvis Manzanos ad "Barrancos" (2600 metr.), *Lindig.*

Caulis 3–4 lineas altus. Folia longiora 2-linearia, sordide viridia. Pedunculus 1–1½-uncialis. Theca 1½-linearis.

Speciminibus *O. Riedeliano* minoribus simile, sed folia latiora.

3. O. RIEDELIANUM (*Mont. in Ann. Sc. Nat.* ser. 2. xvi. 269, Polytrichum). Caulis plus minus elongatus. Folia e basi erectiore patentia, sensim angustata, canaliculata, nervo percurrente dorso dentato, e medio ad apicem lamellato, in inferioribus nudo, marginibus subundulatis dentatis subdentatisve, cellulis basi paucis oblongis, superioribus rotundatis hexagonisque obscurioribus; perichætialia longiora, apicem versus angustiora, argutius dentata, cæteroquin caulinis similia. Theca ovata, inclinata, operculo curvirostro.

Catharinea Riedeliana, *Hampe, C. Müll. Syn.* i. 197.

Polytrichum nigricans, *Hook. et Wils. in Hook. Journ.* iii. 151.

Hab. Brasilia, *Herb. Montagne*; prope Rio de Janeiro et in montibus Corcovado, *Gardner*, n. 1; ad viam inter Castro et Corritiba (2000 ped.), *Weir*, n. 115.

121. PSILOPILUM, Brid. ii. 95.

Musci humiles. Folia crassiuscula, canaliculata, subrigida, nervo intus lamelloso. Thecæ ventricosæ; calyptra apice setis inspersa. *Habitatio* ad terram.

Folia integerrima .... 1. *P. trichodon.*
Folia serrulata .... 2. *P. compressum.*

1. P. TRICHODON (*Hook. et Wils. in Hook. Lond. Journ.* vi. 289, t. 10, Polytrichum). Folia erecto-patentia, laxe imbricata, e basi parum latiore oblongo-lanceolata, marginibus superne subinvolutis, nervo in mucronem pungentem denticulatum excurrente, supra medium intus breviter lamellato, extus lævi, cellulis fere omnibus pellucidis, inferne oblongis, superne subquadratis; perichætialia erecta, caulina haud excedentia, externa latiora, interna intus nuda. Theca in pedunculo breviusculo globoso-ovata, ore parvo, operculo subulato curvato.

Catharinea trichodon, *C. Müll. Syn.* i. 195.

Hab. Andes Novæ Granatenses, Paramo do Ruiz, prope nives æternas, *Purdie.* Andes Quitenses, in monte Pichincha, inter *Andreæam subenervem, Jameson.*

Caulis 1–3-uncialis, inferne nudus, apicem versus densiuscule foliosus. Folia fusca. Pedunculus $\frac{1}{2}$-uncialis. Theca fusca.

2. P. COMPRESSUM (*Hook. et Wils. in Hook. Lond. Journ.* iii. 539; *Fl. Antarct.* ii. t. 410, t. 153. f. 7). Folia e basi latiore erecta sensim angustata, lanceolata, acuta, canaliculata, patentia, nervo percurrente extus subdenticulato, marginibus superne serrulatis, cellulis basi oblongis pellucidis, inde ad apicem quadrato-rotundatis, ob lamellarum vestigia per totam fere folii superficiem dispositis obscuris; perichætialia caulinis similia. Theca in pedunculo elongato ovata, inclinata, operculo subulato.

Hab. Fuegia, Hermite Island, Cape Horn, *J. D. Hooker.*

Caulis $\frac{1}{2}$–1-uncialis. Folia fusca. Pedunculus uncialis. Theca nigricans.

122. POLYTRICHADELPHUS, C. Müll. Syn. i. 201.

Musci subhumiles vel elati, caulibus subsimplicibus furcatis subfasciculatimve ramosis, interdum dendroideis. Folia rigida, canaliculata, nervo intus lamellifero. Thecæ in pedunculis crassiusculis elongatis, calyptra apice setosa vel nuda. *Habitatio* ad terram.

Caulis simplex vel parce divisus.
  Folia ciliata .... 1. *P. ciliatus.*
  Folia dentata.
    Folia basi ovata, sensim ad apicem angustata. 2. *P. horridus.*
    Folia late subquadrata subulata, apice acuta. . 3. *P. magellanicus.*
    Folia late ovata subulata, apice obtusiuscule acuta.
      4. *P. giganteus.*
    Folia late subovata, medio croceo tincta .... 5. *P. semiangulatus.*
    Folia densiuscule, apicem versus parce serrata. 6. *P. flexuosus.*

Folia basi ovato-oblonga, apice in mucronem fuscum pungentem acuminata .... 7. *P. aristatus*.
Folia basi ovato-oblonga, inde subulata acuta lævia. 8. *P. umbrosus*.
Folia basi latissime subquadrata, inde subito subulata acuta obtusiusculeve acuta .... 9. *P. purpureus*.
Folia basi late ovalia, inde subulata acuta ....10. *P. rubiginosus*.
Folia basi late ovato-oblonga.................11. *P. Trianæ*.
Folia basi oblonga, inde lanceolata dorso et margine spinuloso-dentata...............................12. *P. ericoides*.
Folia integerrima ....13. *P. longisetus*.
Caulis ramis fasciculatis dendroideis.
Folia basi latissime subovalia ....14. *P. dendroides*.
Folia basi late subquadrata ....15. *P. squamosus*.

1. P. CILIATUS (*Hook. et Wils. in Hook. Lond. Journ.* vi. 290, t. 10, Polytrichum). Caulis elongatus. Folia densa, e basi erecta late ovata subulata, erecto-patentia, appressa, sicca immutata, apice obtusiuscula, marginibus superne hyalinis dorsoque ciliis elongatis hyalinis fimbriatis, cellulis basi elongatis pellucidis, superne croceis in rotundatas densiores transeuntibus; perichætialia e basi longiore subulata, apicibus sensim acutis intus lamellatis, caulinis similia. Theca obliqua, operculo brevirostro.

Catharinea (Polytrichadelphus) ciliata, *C. Müll. Syn.* i. 201.

Hab. Andes Novæ Granatenses, Paramo de Pamplona (9000 ped.), *Purdie*; Paramo de las Cruces (10,000 ped.), *Funck et Schlim*, n. 1349.

Caulis 3–6-uncialis. Folia rubiginosa fere tereti-appressa. Pedunculus 2½-uncialis. Theca primo erecta? deinde horizontalis.

2. P. HORRIDUS (*Mitt. in Journ. Linn. Soc.* 1859). Caulis elongatus, simplex. Folia e basi erecta patenti-recurva, squarrosa, marginibus dorsoque apicem versus dentatis, intus lamellata, cellulis basi pellucidis superne subito in obscuras transeuntibus; perichætialia apice angustiora. Theca evacua horizontalis pendulave, oblonga, superne plana.

Polytrichum magellanicum, *Hedw. Sp. Musc.* t. 20. f. 3.

Hab. Fuegia, Magellan, Sandy Point, *Lechler*, n. 1163; Hermite Island, *J. D. Hooker*; ins. Falkland, *J. D. Hooker*, *Lechler*, n. 97.

Caulis 2–4-uncialis, simplex. Folia rigida, pungentia, ½ unciam longa, rubiginosa. Pedunculus 1½-uncialis, rufus. Theca 2–3 lineas longa.

3. P. MAGELLANICUS (*Linn. Suppl.* 449; *Hedw. Sp. Musc.* t. 20. f. 1, Polytrichum). Caulis simplex vel dichotome ramosus, fastigiatus. Folia e basi erecta subito subulata, patentia, apice acuta, intus lamellata, extus sub apice parce dentata, cellulis basi elongatis pellucidis, superioribus in rotundas transverse oblongasque obscuras transeuntibus; perichætialia caulinis similia. Theca in pedunculo fusco inclinata, subovata, operculo

subulato; calyptra basi subnuda, apice setulosa.—*Mitt. in Journ. Linn. Soc.* 1859.

Hab. Fuegia, Magellan?

This species is found in Tasmania, New Zealand, and Lord Auckland's Islands.

4. P. GIGANTEUS (*Hook. Musc. Exot.* t. 65, Polytrichum). Caulis elongatus. Folia e basi erecta erecto-patentia, angusta, marginibus integerrimis dentatisve, intus superne lamellata, extus dentata, cellulis basi inferne elongatis pellucidis, superne croceis, inde in transverse oblongas mutatis; perichætialia e basi longiore convoluta subulata, apice in mucronem acutum intus lamellatum producta. Theca in pedunculo fusco oblonga, suberecta, operculo subulato.

Hab. Andes Novo-Granatenses, in devexu montis Quindiu (1450 hexap.), *Humboldt et Bonpland*, n. 52.

Caulis subpedalis. Folia rubiginosa. Pedunculus 1½-uncialis. Theca 3-linearis.

5. P. SEMIANGULATUS (*Pers.*; *Brid.* ii. 744, Pogonatum). Caulis breviusculus. Folia e basi erecta subulata, patentia, apice obtusiuscule acuta, marginibus apice dorsoque dentatis, inferne lævia, intus lamellata, cellulis basi elongatis pellucidis, superioribus croceis subito in obscuras mutatis; perichætialia basi longius convoluta. Theca in pedunculo elongato oblonga, horizontalis, biangulata, operculo subulato; calyptra nuda, lævis.

Polytrichadelphus croceus, *Mitt. in Journ. Linn. Soc.* 1859.
Polytrichum semiangulatum, *Pers.*; *Sull. in U. St. Expl. Exped.* t. 6.
Catharinea magellanica, *Brid.*; *C. Müll. Syn.* ii. 560.

Hab. Brasilia, *Gardner, Pabst.*

6. P. FLEXUOSUS (*C. Müll. Syn.* i. 212, Polytrichum). Dioicus; caulis e basi repente curvata adscendens, elongatus, erectus, simplicissimus, flexuosus, apice recurvus. Folia rigida, siccitate dispositionibus variis falcata subsecunda, madefacta erecto-patentia falcato-stricta, basi densiuscule, apicem versus parce serrata; perichætialia ochreato-vaginantia, obtusa, membranacea, dorso scabra. Pedunculus brevis, minute scaber. Theca basi æqualis, cylindrico-oblonga, minute scabra; peristomii dentes e membrana brevissima altitudinis mediæ longi obtusiusculi.

Hab. Columbia, in Silla de Caracas ad rupes humidiusculas, *Moritz*, n. 135.

P. giganteo affinis, differt autem caule simplicissimo flexuoso apice reflexo, foliis e basi dense serratis, thecis pedunculis et perichætiis scabris.—*C. Müll. l. c.*

7. P. ARISTATUS (*Hampe in Linnæa*, xxxii. 146). Caulis elongatus. Folia e basi erecta sensim subulata, patentia, sicca appressa, margine superne dentata, extus lævia, intus lamellata, cellulis basi angustis pellu-

cidis superne flavis, subito in obscuras transeuntibus; perichætialia e basi longiore convoluta in subulam breviorem apice piliformem producta. Theca in pedunculo fusco oblonga, inclinata, triangularis, operculo rostrato, calyptra apice scabra, basi pilis paucis instructa.

Hab. Nova Granata, *Purdie, Herb. Hooker.* Andes Bogotenses, Los Laches et Pacho (2700–3100 metr.), *Lindig.*

Caulis 1½–2-uncialis, simplex vel divisus. Folia rubiginosa, basi tenera pallida, superne obscurata, et in parte subulata lamellis obtecta. Folia in apicibus caulium in cuspidem congesta.

Hampe says of this, that the leaves are denticulate with incurved spinules; but in Lindig's specimens the serration is very slight, and he states that the nerve is dilated above and occupying nearly the whole leaf; but on removing the lamellæ it is seen that the nerve is only one-third of the width of the leaf.

8. **P. UMBROSUS** (*Mitt.*). Caulis elongatus, simplex. Folia densiuscule inserta, e basi latiore erecta patentia, sicca appressa, extus lævia, intus lamellata, marginibus superne dentatis, cellulis basi elongatis pellucidis, superioribus croceis subito in obscuras transeuntibus; perichætialia e basi duplo longiore convolutacea, parte subulata breviore in mucronem pungentem acuminata, intus lamellata. Theca in pedunculo rubro-fusco ovalis, horizontalis, operculo rostro obliquo, calyptra lævis.

Hab. Chili, San Gavan, in umbrosis ad terram, *Lechler*, n. 2205.

Caulis 2–4-uncialis. Folia rubiginosa, fusco-nigrescentia. Pedunculus 3-uncialis.

P. giganteo similis; folia autem dorso lævia, marginibus copiose dentatis.

9. **P. PURPUREUS** (*Mitt.*). Caulis elongatus. Folia basi erecta amplexicaulia, patentia, sicca appressa, marginibus superne denticulatis, dorso denticulis dense inspersis, intus lamellata, cellulis basi elongatis pellucidis, superioribus croceis subito in obscuras mutatis; perichætialia e basi longiore convoluta sensim subulata, acuta, intus lamellata. Theca in pedunculo purpureo oblonga, inclinata.

Hab. Andes Quitenses, in monte Picillun, *Jameson.*

Caulis 3-uncialis. Folia rubiginosa. Pedunculus 2-uncialis. Theca 3-linearis, plano-convexa, subcylindracea.

10. **P. RUBIGINOSUS** (*Mitt.*). Caulis elongatus. Folia e basi erecta patentia, sicca appressa, marginibus dentatis, apice extus denticulo uno alterove instructa, cæterum lævia, cellulis basi angustis, superne croceis subito in obscuras transeuntibus; perichætialia apicibus acutioribus, cæteroquin caulinis similia. Theca in pedunculo fusco basi vaginula dimidio pilis vestito exserta oblonga, horizontalis, calyptra nuda.

Hab. Antioquia, *Jervis*; Peru, *Ruiz et Pavon*; Huanaco provincia supra saxa, *Herb. Hooker.* Andes Novo-Granatenses, in collibus prope Bogota (9600 ped.), *Weir*, n. 211.

Caulis 2–4-uncialis. Folia rubiginoso-fusca, dentibus divergentibus subciliata. Pedunculus 1½-uncialis.

11. P. TRIANÆ (*Hampe in Ann. Sc. Nat.* ser. 5. iv. 346, Catharinea). Dioica, segregata, dispersa; caulis simplex, erectus, e basi attenuata elongato-clavatus, rigidus. Folia appressa, humida erecto-patentia, inferiora abbreviata, versus apicem caulis accrescenti-longiora, omnia arcte vaginantia, acerosa, basi e cellulis laxis pellucidis superne aureis reticulata, lamina canaliculata, breviter lanceolata, vaginam subæquante, margine parce remote denticulata, nervo latissimo fere omnino occupata, obtusiuscula; perichætialia longiora, acuminata. Seta lateralis, elongata, rubra, stricta. Theca rhomboidea, operculo conico acuminata, dentibus peristomii 64 brevibus ligulatis pallidis; calyptra glabra, basi pilis erectis fimbriata.

Hab. Nova Granata, La Palmilla, Quindiu, *Triana in coll. Linden*, n. 9; prope Bogota Chaparal, *Goudot in Herb. Mus. Par.* n. 6.

Ab omnibus hujus sectionis foliis arcte vaginantibus, humidis apice patulis, lamina brevi acerosa ericoidea diversus.—*Hampe, l. c.*

12. P. ERICOIDES (*Hampe in Ann. Sc. Nat.* ser. 5. iv. 350, Polytrichum). Caulis simplex, basi attenuatus, subnudus, superne dense foliatus, uncialis. Folia brevia, dense imbricata, complicato-carinata, patenti-erecta, humida patula, ericoidea, e basi vaginante oblonga, cellulis anguste parallelogrammicis lutescenti-diaphanis, lateralibus linearibus hyalinis reticulata, lanceolata, nervo basi angusto obscure lutescenti-diaphano, in laminam opacam dilatato eamque totam occupante, cetera desunt.

Hab. Andes Bogotenses, Bogota, Boqueron (2100 metr.), *Lindig.*

Species memorabilis ericoidea, an *Catharinellis* aut *Catharineis* adnumeranda? Ex habitu *Polytrichi longiseti* Hook.—*Hampe, l. c.*

13. P. LONGISETUS (*Hook. Musc. Exot.* t. 66, Polytrichum). Folia e basi erecta ovato-oblonga, subulata, patentia, acuta, extus lævia, cellulis basi elongatis, superioribus croceis subito in obscuras transeuntibus. Theca in pedunculo elongato oblonga, inclinata, operculo subulato.

Pogonatum longisetum, *Brid.* ii. 128.

Hab. Andes de Cundinamara in montis Quindiu regione temperata, *Humboldt et Bonpland*, n. 25.

Caulis 2–3-uncialis. Folia brevia, fusco-rubiginosa. Pedunculus 2–3-uncialis.

14. P. DENDROIDES (*Hedw. Sp. Musc.* 102; *Schwægr.* t. 151, Polytrichum). Caulis trigonus, elongatus, simplex, apice ramis patentibus simplicibus furcatisve fasciculatim ramosus. Folia caulina e basi erecta amplexante superne subdenticulata, subulata, angusta, elongata, patentia, marginibus dorsoque denticulatis, intus parce lamellosis, ramea e basi erecta subquadrata subulata, sensim angustata, marginibus dorsoque denticulatis, cellulis basi angustis pellucidis, superne in obscuras mutatis; perichætialia

basi vaginantia, cæterum caulinis similia. Theca in pedunculo brevi oblonga, inclinata, operculo curvirostro.

Pogonatum dendroides, *Brid.* ii. 112.

Catharinea dendroides, *C. Müll. Syn.* i. 200, ii. 559.

Hab. Magellan, *Commerson*; Hermite Island, *J. D. Hooker*; Patagonia et insula Chiloe, *Lobb*; Chili, Arique, *Lechler*, n. 529; Peruvia et Chili, *Philippi*.

Caulis 3–12-uncialis, inferne foliis squamiformibus arcte amplexantibus obtectus. Rami 1–2-unciales. Folia viridia, ferruginea. Pedunculus 1½-uncialis.

Also found in New Zealand.

15. P. SQUAMOSUS (*Hook. et Wils. in Hook. Lond. Journ.* iii. 539; *Fl. Antarct.* ii. 411, t. 153. f. 8, Polytrichum). Caulis trigonus, inferne simplex, superne fasciculatim ramosus, ramis ramosis. Folia caulina e basi amplexante subito in subulam contracta, marginibus dorsoque dentatis, ramea e basi erecta quadrata subito subulata, patentia, marginibus dorsoque dentatis.

Catharinea squamosa, *C. Müll. Syn.* i. 200, et ii. 560.

Hab. Magellan, Hermite Island, *J. D. Hooker*.

Caulis 3–6-uncialis, ramis ½–¾-uncialibus. Folia ferruginea, dense inserta, rigida, patentia, sicca parum curvata.

This species occurs also in New Zealand.

123. POGONATUM, Pal. de Beauv. Prodr. 38.

Musci caulibus brevissimis vel elatis simplicibus vel ramosis, foliis planis mollibus crispabilibus vel canaliculatis incrassatis rigidis, nervo intus lamellifero. Thecæ breves vel elongatæ. *Habitatio* ad terram, interdum ad ligna.

Sect. 1. EUPOGONATUM. *Theca cylindracea, lævis.*

Folia basi rotundata, apice tenuiter acuminata .. 1. *P. oligodus.*

Folia basi late ovata, apice convoluto-cucullata aristata. 2. *P. cucullatum.*

Folia basi semivaginantia, inde ligulata haud acuta. 3. *P. comosum.*

Folia basi semivaginantia, inde late lineari-lanceolata subplana. 4. *P. Liebmannianum.*

Folia basi latissime subquadrata, apice obtusiuscula. 5. *P. glaciale.*

Sect. 2. ANASMOGONIUM. *Theca plus minus distincte plicata.*

Caulis brevissimus.

Folia inferiora e basi lata subito contracta .... 6. *P. Gardneri.*

Folia inferiora triangularia, late acuminata .... 7. *P. abbreviatum.*

Caulis plus minus elongatus.

Folia a basi latiore ovato-lanceolata .... 8. *P. andinum.*
Folia a basi latiore longe lineari-lanceolata acuta. 9. *P. robustum.*
Folia a basi latiore lato-lanceolata, sinuato-serrata. 10. *P. subcontortum.*
Folia a basi latiore lato-lanceolata, spinuloso-dentata. 11. *P. purpurascens.*
Folia a basi latiore subovato-elliptico, spathulata, acuta. 12. *P. arcuatum.*
Folia a basi parum latiore longe ligulato-lanceolata. 13. *P. viride.*
Folia a basi brevi latiuscula, breviter lanceolata. 14. *P. octangulare.*
Folia a basi brevi parum latiore longe lineari-lanceolata, acuta. 15. *P. semipellucidum.*
Folia a basi brevi parum latiore ligulato-lanceolata, subbifaria. 16. *P. subbifarium.*
Folia a basi parum latiore elliptico-lanceolata, acuta. 17. *P. obscuratum.*
Folia a basi brevi subrotundata elongate elliptica, acuta. 18. *P. tortile.*
Folia a basi brevi ovali lineari-lanceolata ...... 19. *P. campylocarpum.*
Folia a basi brevi latiore lato-lanceolata ...... 20. *P. varians.*

Sect. 1. *Eupogonatum.*

Folia rigida, rufa. Thecæ firmæ, haud papillosæ.

1. P. OLIGODUS (*Kunze*; *C. Müll. Syn.* i. 206, Polytrichum). Caulis brevis. Folia inferiora oblonga, mucronata, appressa, superiora sensim longiora, comalia a basi erecta latiore subulata, patula, margine dentata, dorso lævia; perichætialia interna a basi elongata, convoluta, subulata, caulinis similia. Fructus ex eodem perichætio sæpe plures. Theca in pedunculo flexuoso cylindracea, inclinata, operculo convexo tenuirostrato, calyptra pilis thecam totam obtegentibus vestita.

Polytrichum Jamesoni, *Tayl. in Hook. Lond. Journ.* vii. 188.

Hab. Andes Bogotenses (2600–2700 metr.), *Lindig*; in collibus prope Bogota et Tipaquira (8500 ped.), *Weir*, n. 300. Andes Quitenses, *Jameson*; in monte Pichincha ad aggeres (11,000 ped.), etiam in monte Titaicun (11,000 ped.), *Spruce*, n. 1496. Chili, *Lobb* et ex *Herb. Montagne*.

Caulis unciam altus, inferne nudus. Pedunculi unciales sæpe plures (2–6). Theca angusta 3-linearis.

2. P. CUCULLATUM (*Hampe in Ann. Sc. Nat.* ser. 5. iv. 348, Polytrichum). Caulis humilis, simplex, læte viridis. Folia rigida, erecto-patula, e basi vaginante limpido-hyalina, laxe reticulata, subito lanceolata, superiora

aristata, apice convoluto-cucullata, dentata, nervo basi rufescente striato in lamina dilatato, eam fere omnino obtegente, lamelloso-striato. Seta solitaria, brevis, fere uncialis. Calyptra longissima.

Hab. Andes Bogotenses, Bogota ad Barrancos, *Lindig.*

A *P. oligodo* satis distinctum caule humiliore, foliis patulis lamelloso-striatis apice cucullato-contractis, magis *P. simense* Bruch et Schimp. æmulans.—*Hampe, l. c.*

3. P. COMOSUM (*Schimp.*; *C. Müll. Syn.* ii. 561, Polytrichum). Caulis simplex. Folia inferiora et media adpressa, superiora comantia et patenti-recurva, siccitate laxe incumbentia, coriacea solida nec tenuia, plana, dorso convexiusculo, nervo semitereti quartam paginæ partem occupante, lamellis margine sulcatis et biseriatim obtuse dentatis, margine pallide ferrugineo, ad basin vaginantem usque dentato; perichætialia vaginula vix longiora, lanceolata, vaginantia, solo apice margine dentata et in nervo lamellata. Theca in pedunculo subunciali erecta, fusca, operculo depresso conico acuminato breviore; calyptra dense ferrugineo-pilosa.—*C. Müll. l. c.*

Hab. Mexico, Pico de Orizaba, *Liebmann.*

Caulis 1–1½ unciam altus.

4. P. LIEBMANNIANUM (*Schimp.*; *C. Müll. Syn.* ii. 563, Polytrichum). Caulis simplex, dense foliosus. Folia rigida, infima et media patentia, superiora erecta, siccitate imbricata, dorso convexo lævi, margine pellucido apice serrato, superne tota latitudine lamellata, nervo excurrente; perichætialia latiora, longiora, subconcava. Theca in pedunculo crassiusculo siccitate superne dextrorsum torto obliqua vel cernua, operculo convexo-conico acuminato; calyptra pilis densis pallide stramineis, totam thecam obtegens.—*C. Müll. l. c.*

Hab. Mexico, in monte Orizaba, *Liebmann.*

Caulis 1½ unciam altus.

5. P. GLACIALE (*Mitt.*). Caulis elongatus. Folia e basi erecta subito subulata, lineari-lanceolata, marginibus superioribus breviter denticulatis, intus lamellis latitudinem totam obtegentibus, extus denticulis pluribus inspersa, cellulis basi elongatis angustis pellucidis, superioribus rotundatis oblatisque obscuris; perichætialia caulinis similia. Theca in pedunculo rubro cylindracea ?, inclinata.

Hab. Mexico, in summo monte San Felipe ubi extructa glacie apotheca, *Andrieux*, n. 19, 21, *Herb. Hooker.*

Caulis 3–4-uncialis. Folia rigida, ferruginea, sicca subcurvata appressa, basi duplo latiora. Pedunculus uncialis.

P. microstomo Br. Indiæ orientalis simillimum, foliis autem basi longioribus latioribusque magis quadratis cellulis elongatis angustis haud rotundatis areolatis distinctum; a *P. alpino* hucusque in America australi non reperto defectu perichætii proprii differt.

Sect. 2. *Anasmogonium.*

Folia intense viridia, firma, vel mollia crispantia. Thecæ teneræ, pallidæ, cellulis prominulis papuloso-papillatis, demum contractione leniter sexplicatæ.

6. P. **Gardneri** (*C. Müll. Syn.* ii. 560, Polytrichum). Folia inferiora e basi subquadrata erecta subito in acumen patens sublanceolatum apice obtusiusculum incurvum producta, nervo superne intus lamelloso extus apice dentato, marginibus apicem versus dentatis, superiora perichætialiaque erecta, lanceolata, acuminata, acuta, apice parce dentata, nervo intus parce lamelloso extus parce dentato. Theca in pedunculo aurantiaco cylindracea, oblonga, inclinata, operculo brevirostro, calyptra pilis appressis ochraceis, thecam totam obtegentibus.

Hab. Brasilia, ad Tijuca in argillosis, *Gardner*, n. 15; Parana, prope Fazenda de Fortaleza, *Weir*, n. 51.

Caulis 1–2-linearis. Pedunculus 9-linearis. Theca 1½-linearis.

7. P. **abbreviatum** (*Mitt.*). Subacaule. Folia inferiora obtusiuscula, apice denticulata recurva, nervo tenui intus nudo, superiora late lanceolata acuminata convoluta, apicibus latiusculis obtusiusculis, erecto-patentia, marginibus superioribus apiceque denticulatis, nervis intus pauci-breviterque lamelloso extus apice parce denticulato, interiora lamellis nullis, omnia cellulis inferne oblongis elongatisque, superioribus quadratis hexagonisque mollibus subpellucidis. Theca in pedunculo elongato oblonga, cylindracea, inclinata; calyptra thecam totam obtegens, pilis pallide ochraceis vestita.

Hab. Andes Novo-Granatenses, in declivibus ad viam inter Marta et Bucuramanga (6000 ped.), *Weir*, n. 164.

Caulis cum foliis 2-linearis. Folia pallida fusca. Pedunculus subuncialis, fusco-ruber.

P. Gardneri statura simile, sed e structura foliorum *Atrichis* affinius.

8. P. **andinum** (*Hampe in Linnæa*, xxxii. 147, Polytrichum). Laxe cæspitosum, 3–4-unciale; caulis e basi nudiuscula adscendens, accrescentifoliatus, apice incrassatus, simplex vel parce divisus. Folia dense accumbenti-imbricata, inferiora breviora, superiora longiora, apice convoluto-incurvata, dorso aspera, humida patentia, canaliculata, e basi latiore vaginante integerrima, ovato-lanceolata, margine argute sinuato-dentata, nervo ad basin valido æquali opaco, in lamina dilatato eandem fere totam occupante. Seta apicalis uncialis et longior, erecta, rubra. Theca parvula curvato-cylindrica, adscendens, lævis, rubiginosa, deoperculata sub ore contracta octies striata, operculo cruento umbonato-conico rostrata, rostro subcompresso pallidiore, calyptra thecam usque ad basin obtegente.

Hab. Andes Bogotenses, Bogota, Chapinero (2700 metr.), ad "Barrancos," *Lindig.*

P. alpinum æmulans sed *P. cylindrico* Schimp. magis affine; differt foliis brevioribus et latioribus et theca minore. Ad *Catharinellas* transit. —*Hampe, l. c.*

9. P. ROBUSTUM (*Mitt.*). Caulis simplex elatus. Folia e basi brevi latiore erecta patentia, planiuscula, stricta, nervo rufo dorso sub apice parce dentato, marginibus fere a basi infima dentibus crebris serratis, intus tota superficie lamellis obtecta, cellulis basi paucis oblongis, inde in parvas obscuras rotundatas transeuntibus.

Hab. Ins. Jamaica, *Wilson.*

Caulis ½-pedalis. Folia densiuscule inserta, 4-linearia, rigidiuscula. Primo visu a *Polytricho communi* Europæ haud dissimile.

10. P. SUBCONTORTUM (*Hampe in Ann. Sc. Nat.* ser. 5. iv. 349, Polytrichum). Caulis elongatus, 2–3-uncialis, adscendens, basi tenuis et nudiusculus, superne laxe foliatus, subæqualis, parum clavatus, folia laxe imbricata, convoluto-canaliculata, incurva, inferiora patentia inflexa, superiora conferta, e basi late ovata vaginante lato-lanceolata, brevi spatio basi integerrima, versus apicem tandem latere inferiore ab medio vaginæ modice dentato-serrata, in acumine grosse sinuato-serrata; nervo basi fuscescente, opaco, laminam totam occupante, lamelloso-striato; cellulis basilaribus elongato-quadratis, lateralibus et intermediis densioribus minoribus, angulato-quadratis vel rotundatis, sordide flavescentibus. Seta apicalis, adscendens, uncialis et paulo longior, apice tortilis, rubens. Theca parvula, oblongo-cylindrica, subferruginea, operculo umbonato conico-subulato cruento, peristomii dentibus brevibus angustis albidis; calyptra aurea, normalis.

Hab. Andes Bogotenses, Chapinero (2700 metr.), in umbrosis humidis cum *P. andino, Lindig,* n. 2044.

Mihi ex icone Schwægr. t. 96, imperfecta solum cognitum; *P. contorto* proximum, ab eo peristomii dentibus albidis hyalinis satis differt; inter *P. semipellucidum* et *P. purpurascens* quasi intermedium.—*Hampe, l. c.*

11. P. PURPURASCENS (*Hampe in Linnæa,* xxxii. 148, Polytrichum). Gregarium, laxe cæspitosum, 2–4-unciale, gracile, fusco-purpurascens; caulis adscendenti-erectus, basi attenuatus, nudiusculus vel microphyllinus, versus apicem accrescendo anguste clavatus, laxe foliatus. Folia brevia, convoluto-incurvata, tortilia, laxe accumbentia vel patenti-flexuosa, humida erecto-patula, cucullato-concava, e basi brevi latiore integerrima, diaphana, lato-lanceolata, margine basi diaphano, superne obscuro, dorso quoque spinuloso-dentata, nervo ad basin valido, æquali, obscuro, in lamina dilatato, eam fere totam occupante, cellulis basilaribus elongato-quadratis, interstitiis nodulosis interruptis, intermediis minoribus angulato-rotundatis ad marginem condensatis punctatis. Seta uncialis et longior, erecta, rubra, apice tortilis. Theca parva, e basi conica oblongo-cylindrica incurva, sub ore parum contracta, octies angulata, ferruginea, operculo umbonato-conico rostrato, brevi, sanguineo, peristomio *P. subcontorti,* calyptra aurea.

Hab. Andes Bogotenses, in sylvis Manzanos, et Bogota, Chapinero (2700 metr.), *Lindig.*

P. cirrhatum æmulans, differt foliis brevioribus, magis cirrhatis.—*Hampe, l. c.*

12. P. ARCUATUM (*Mitt.*). Caulis brevis. Folia e basi brevi parum latiore subovata patentia, marginibus nervoque dorso sub apice dentatis intus lamellatis, cellulis basi oblongis pellucidis, superne sensim in parvas obscuras transeuntibus; perichætialia conformia. Theca in pedunculo elongato inclinata, cylindracea, arcuata, evacua subplicata.

Hab. Andes Novo-Granatenses, ad viam inter Tipaquira et Pacho (9000 ped.), *Weir*, n. 207.

13. P. VIRIDE (*Mitt.*). Caulis elongatus. Folia compressa, subbifaria, e basi brevi erecta patentia, acuta, planiuscula, marginibus e medio ad apicem dentatis, nervo dorso sub apice dentato, lamellis intus brevissimis folii latitudinis $\frac{2}{4}$ occupantibus fere ad basin descendentibus, cellulis basi oblongis, superioribus parvis obscuris; perichætialia caulinis similia. Theca in pedunculo rubro oblonga, inclinata, evacua 7–8-plicata; calyptra pilis pallidis thecam totam obtegens.

Hab. Andes Bogotenses, in descensu a planitie Bogotensi ad Fusagasuga (6500 ped.), *Weir*, n. 137.

Caulis 6–9-uncialis. Folia 6–7-linearia, latitudine linearia, intense viridia, lamellis striæformibus inter se discretis notata. Pedunculus 1½-uncialis. Theca 2-linearis, evacua valde constricta.

14. P. OCTANGULARE (*C. Müll. Syn.* ii. 564, Polytrichum). Cæspitosum, subhumile, simplicissimum, strictiusculum. Folia siccitate erectopatula, plana, madore laxissime imbricata, patentissima vel reflexa, brevia, e basi pallida breviter lanceolata, planissima, supra basin lamellis brevibus omnino obtecta, margine superne breviter sed robuste dentata; perichætialia similia. Theca in pedunculo mediocri purpureo lævi horizontalis ampla oblonga, octies leviter callosa, brunnescens, basi æquali grosse verrucosa; peristomii dentes 32, breviusculi, lati, pallidi, obtusi, apice subincurvi, medio rubiginoso-striati.—*C. Müll. l. c.*

Hab. America centralis, Costa Rica, Aquacate (1500 ped.), *Œrsted.*

15. P. SEMIPELLUCIDUM (*Hampe; C. Müll. Syn.* i. 214, Polytrichum). Caulis elongatus. Folia e basi brevi erecta patentia, subplana, lamellis intus brevibus latitudinem ad $\frac{4}{6}$ occupantibus, nervo dorso sub apice dentato, marginibus e medio ad apicem dentibus approximatis seriatis, cellulis basi oblongis pallidis, superne in parvas obscuras transeuntibus; perichætialia conformia. Theca in pedunculo brevi breviter ovalis, inclinata, septemplicata, calyptra fusco-pilosa.

Polytrichum convolutum, *Hook. in Kunth. Syn. Pl. Æquin.* i. 48.

Hab. Andes Bogotenses, prope La Garita del Paramo de Quindiu (1760 hexap.), *Humboldt et Bonpland*; Tocarema et Fusagasuga (2200–

2400 metr.), *Lindig*; in prov. Ocana, *Triana*. Venezuela, prov. Merida in montibus nivosis, *Moritz*. Andes Peruvianæ, *Mathews*.

16. P. SUBBIFARIUM (*Mitt.*). Caulis elongatus. Folia compressa, acuta, patentia, marginibus a medio ad apicem nervoque dorso sub apice serratis, lamellis intus brevissimis superne folii latitudinis $\frac{3}{5}$ occupantibus infra medium obsoletis, cellulis basi oblongis pallidis sensim superne abbreviatis obscuris rotundatis; perichætialia basi latiora, cæterum caulinis similia. Theca in pedunculo elongato rubro oblonga, inclinata, plicata, operculo brevirostro.

Hab. Nova Granata, in sylvis humidis Osson, *Purdie*. Venezuela, prov. Merida (5500 ped.), *Funck et Schlim.* n. 994.

Caulis $\frac{1}{2}$-uncialis. Folia 4-linearia, obscure viridia. Pedunculus $1\frac{1}{2}$-uncialis. Theca 2-linearis.

17. P. OBSCURATUM (*Mitt.*). Caulis brevis. Folia e basi erecta erecto-patentia, marginibus denticulis brevibus serratis, dorso sub apice parce dentata, lamellis intus latitudinem folii totam obscurantibus, cellulis basi paucis oblongis superne cito in rotundatas transverse oblongasque obscuras mutatis; perichætialia e basi longiore oblonga sensim acuminata, obtusa, cæterum caulinis similia. Theca in pedunculo elongato oblongo-cylindracea, inclinata, arcuata, plicis obsoletis; calyptra pilis fuscis thecam totam obtegens.

Hab. Andes Quitenses, in monte Pichincha (10,000 ped.), *Spruce*, n. 1495.

Caulis $\frac{1}{2}$-uncialis. Folia 2-linearia, ferruginea fusca, sicca appressa, parum curvata. Pedunculus $1\frac{1}{2}$-uncialis. Theca $1\frac{1}{2}$-linearis.

18. P. TORTILE (*Sw. Fl. Ind. Occid.* iii. 1839). Caulis elongatus. Folia e basi brevi latiore erecta patentia, sicca contorta, lamellis superne fere totam folii latitudinem obtegentibus, marginibus dorsoque superne dentatis, cellulis basi paucis oblongis sensim superne in rotundatas oblatasque obscuras mutatis; perichætialia basi latiora, convoluta, cæterum caulinis similia. Theca in pedunculo rubro inclinata, breviter ovalis, plicata; calyptra pilis densis fuscis thecam totam obtegens.

P. cubense, *Sulliv. in Proc. Amer. Acad.* 1861.

Hab. Ins. Jamaica, *Swartz*, *Wilson*; Cuba, *Wright*, n. 57.

19. P. CAMPYLOCARPUM (*C. Müll. Syn.* i. 209, Polytrichum). Caulis breviusculus. Folia e basi erecta patentia, dorso sub apice parce dentata, marginibus ex apice partis ovalis ad apicem usque serratis, intus lamellis brevibus obtecta, cellulis basi paucis oblongis quadratis minutis immixtis, ad margines omnibus quadratis sensim superne minoribus obscurioribus; perichætialia e basi oblonga convoluta subulata, angustiora. Theca in pedunculo elongato cylindracea, arcuata, inclinata, plicata, operculo acuminato, calyptra pilis fuscis thecam obtegens.

Hab. Mexico, *Coulter*; Venezuela, prov. Caracas (4000 ped.), *Funck et Schlim*, n. 379, *Birschell.*

Caulis uncialis. Folia ferruginea, sicca incurva 3-linearia. Pedunculus 1½-uncialis.

Ex habitu staturaque *P. aloidi* simillimum, sed e foliorum basis structura diversum. Cum *P. urnigero* comparat Cl. Müller, ab eo autem satis differt.

20. P. VARIANS (*Hampe in Ann. Sc. Nat.* ser. 5. iv. 350, Polytrichum). Humile, laxe cæspitosum, subsimplex, interdum basi divisum vel apice prolifero-ramosum, fusco-viride, caulis e basi attenuata nuda microphyllina versus apicem accrescenti-clavatus, rigidiuscule adscendens. Folia imbricata, accumbenti-erecta, breviora, sicca obtuse carinata, inflexa, apice parum curvata, humida patula, e basi vaginante integerrima, rufescenti-diaphana, lato-lanceolata, margine remote sinuato-dentata, dorso glabra, apice plus minusve scabra, cellulis basilaribus anguste elongato-quadratis, lateralibus magis elongatis linearibus, intermediis sensim abbreviatis, ad marginem laminæ subrotundo-punctatis, in superiore parte folii multilamellosi nervo crasso fere tota obscura. Seta erecta, uncialis et altior, caulem superans, apice tortilis. Theca brevis, junior suberecta, oblique oblongo-cylindrica, sub ore constricta, operculo umbonato rostrato, rostro compresso obtusiusculo, deoperculata curvata ubique verrucoso-punctata, demum octies plicato-striata, plus minusve ferruginea, peristomii dentibus 40, brevibus, obtusis, pallescentibus; calyptra aurantiaca, longa, thecam omnino includens.

Hab. Andes Bogotenses, Bogota, Guadelupe monte del Morro et in sylvis Manzanos (2200–3100 metr.), *Lindig.*

P. tortili affine; differt foliis margine evidenter serratis theca papillosa. —*Hampe, l. c.*

124. POLYTRICHUM, Dill., Linn.

Musci humiles vel elati, caulibus rigidis tenacibus parum divisis. Folia rigida, canaliculata, intus lamellis obtecta. Thecæ in pedunculo rigido elongato cubicæ vel sexangulatæ, demum inclinatæ horizontalesve. *Habitatio* ad terram.

Folia margine inflexa integerrima.
  Folia in pilum diaphanum producta .... 1. *P. piliferum.*
  Folia basi subovata .... 2. *P. juniperinum.*
  Folia basi oblongo-ovata .... 3. *P. antillarum.*
  Folia basi usque ad dimidium folii elongate oblonga.
  4. *P. aristiflorum.*
  Folia basi quadrato-orbicularia .... 5. *P. juniperiforme.*
  Folia basi oblongo-ovalia .... 6. *P. conforme.*
Folia margine serrata.
  Folia basi pallide ochracea breviter oblonga .. 7. *P. commune.*

Folia basi rubra late oblongo-quadrata........	8. *P. rubescens.*
Folia basi quadrato-rotundata	9. *P. formosum.*
Folia basi oblonga lateribus teneris pallidis....	10. *P. angustifolium.*
Folia incerta	11. *P. elongatum.*

1. P. PILIFERUM (*Schreb. Bryol. Europ.* t. 14). Folia e basi subquadrata subulata, patentia, linearia, apice acuminata et in pilum denticulatum producta, dorso lævia, cellulis basi oblongis ad margines angustioribus pellucidis paucis diaphanis, subito in transverse oblongas obscuras mutatis; perichætialia erecta, e basi membranacea vaginante in pilum longiorem producta. Theca breviter ovata, tetragona, erecta, demum horizontalis, operculo conico depresso subulato.

Hab. Magellan, Sandy Point, *Lechler,* n. 1023; Cape Horn, *J. D. Hooker*; ins. Falkland, *J. D. Hooker,* et Juan Fernandez, *Bertero.*

2. P. JUNIPERINUM (*Hedw. Sp. Musc.* t. 13). Caulis plus minus elongatus. Folia e basi latiore erecta amplexante subito patenti-recurva, sensim ob margines inflexos ad apicem angustata, nervo subcarinata, dorso sub apice parce denticulata, in acumen pungens subscabrum producta, cellulis basi elongatis pallidis, superioribus flavidis subito in transverse oblongas obscuras mutatis; perichætialia erecta, subulata, caulina parum excedentia, membranacea, nervo in aristam scabram excurrentem attenuato, intus nuda. Theca oblongo-cubica, inclinata.

Hab. Magellan, Sandy Point, in terra humida, *Lechler,* n. 1029. Chili, Arique, *Lechler,* n. 671, et Sachapata, *Lechler,* n. 2600.

3. P. ANTILLARUM (*Rich.*; *Brid.* ii. 138 et 747). Caulis plus minus elongatus. Folia e basi latiore erecta amplexante subito reflexa, divaricata, longe linearia, acuminata, nervo excurrente subcarinata, dorso sub apice lobato-serrulata, cellulis basi inferne elongatis pallidis, superne flavis pellucidis, inde in obscuras transverse oblongas mutatis; perichætialia erecta, caulina parum excedentia, subulata, membranacea, nervo excurrente sensim attenuato denticulato, intus nuda. Theca suboblonga, inclinata.

P. appressum, *Schwægr.* t. 152.

Hab. Ins. San Domingo, *Richard in Herb. Hooker.*

Caulis 3-uncialis. Folia stricta angusta.

4. P. ARISTIFLORUM (*Mitt.*). Caulis plus minus elongatus. Folia e basi erecta latiore sensim angustata, patentia, nervo dorso denticulato, apice in acumen pungens scabrum excurrente, cellulis basi pallidis elongatis angustissimis, superne utrinque intra limbum marginalem hyalinum ovalibus, lineam fuscam descendentem formantibus, superne subito in transverse oblongas obscuras mutatis; perichætialia erecta, subulata, membranacea, nervo in aristam scabram longe attenuato. Theca horizontalis, oblonga, operculo brevi plano breviter curvirostro.

Hab. Ins. India occidentalis, ex *Herb. R. Brown*; Jamaica, *Wilds*;

Venezuela, prov. Caracas (5000 ped.), et Quebrada de S. Lazaro, *Funck et Schlim*, n. 472, et *Birschell*; Nova Granata, *Blagborne*. Andes Bogotenses ad viam inter Tipaquira et Pacho (9000 ped.), *Weir*, n. 197, 208, 253 et 256; in collibus prope Bogota (8800 ped.), *Weir*, n. 204; in collibus prope Sebate (8000 ped.), *Weir*, n. 322, 323; in declivibus ad Canoas prope Tequendama (8500 ped.), *Weir*, n. 309. Andes Quitenses, *Jameson*, ad fl. Napo, *Osculati*; ad cataractam Agoyan, *Spruce*, n. 1500. Peruvia, *Mathews*, San Gavan, in rupibus humidis, *Lechler*, n. 2281 (forma foliis laxis remotis "*P. juniperiforme*"). Brasilia, in summo monte Corcovado, *Gardner*, n. 13, et *MacGillivray*; prov. S. Paulo, in campo prope Itu (2000 ped.), *Weir*, n. 11.

5. P. JUNIPERIFORME (*Schimp.*). Caulis plus minus elongatus. Folia e basi dilatata amplexante subito angustata, patentia, inde longe linearia, sensim ad apicem angustata, dorso superne denticulata, nervo in acumen pungens scabrum denticulatum producto, cellulis basi angustis pallidis pellucidis, superne subito in transverse obliquas mutatis; perichætialia caulina haud excedentia, erecta, subulata, membranacea, nervo in aristam scabram attenuatam excurrente. Theca horizontalis, operculo brevirostro; calyptra thecam pilis obtegens.

Hab. Chili, S. Gavan, in rupibus, *Lechler*, n. 2282.

6. P. CONFORME (*Mitt.*). Caulis elongatus. Folia inter se remotiuscula, e basi erecta latiore amplexante patenti-divergentia, anguste linearia, sensim acuta, intus lamellata, extus superne denticulato-scabra, nervo in acumen scabrum excurrente, cellulis basi angustis elongatis pellucidis, superioribus subito in transverse oblongas obscuras mutatis; perichætialia interna e basi caulinis longiora, subulata, intus lamellata, marginibus inflexis caulinis similibus. Theca oblonga, operculo longirostro, calyptra pilis rubris thecam totam obtegentibus.

Hab. Andes Quitenses, secus cataractam Chinchin fl. Pastasa (5000 ped.), *Spruce*, n. 1501.

Caulis 1–3-uncialis.

P. antillarum simile, perichætium autem diversum.

7. P. COMMUNE (*Linn. Sp. Pl.* ii. 1573). Caulis plus minus elongatus. Folia densiuscula, e basi latiore erecta anguste lineari-acuminata, patentia recurvave, nervo dorso superne denticulato in acumen denticulatum producto, cellulis basi elongatis pellucidis, superne subito in obscuras transverse oblongas mutatis; perichætialia erecta, subulata, membranacea, nervo in aristam lævem attenuato. Theca quadrata, operculo rostrato, calyptra pilis ochraceis thecam totam obtegentibus vestita.

Hab. Brasilia, ad viam inter Castro et Corritiba (2000 ped.), *Weir*, n. 99; et in "campo" Fazenda de Montenegro prov. Parana (2400 ped.), *Weir*, n. 100.

All the South-American specimens, like those from Australia and New Zealand, are smaller in stature than the usual states of the species as it occurs in Europe, North America, the Atlantic islands, and Africa.

8. P. RUBESCENS (*Mitt.*). Caulis elatus. Folia e basi erecta amplexicauli subulata, linearia, angusta, patentia, apice obtusiuscula, marginibus erectis superne remote breviterque dentatis, intus lamellis folii latitudinem totam occupantibus, nervo tenui dorso sub apice dentato, cellulis basi pellucidis elongatis angustis, superioribus rubris inde in parvas obscuras transverse oblongas subito mutatis.

Hab. Andes Quitenses, *Jameson*.

Caulis 7–8-uncialis. Folia inter se remotiuscula, basi in parte erecta rubra, nitida, in parte superiore obscure viridia, rufescentia.

P. communis formæ majori Europæ simile, sed colore foliorum basis statim dignoscitur.

9. P. FORMOSUM (*Hedw. Sp. Musc.* t. 19). Folia e basi latiore erecta patenti-recurva, linearia, acuta, nervo dorso apice denticulato excurrente, marginibus dentatis, intus lamellata, cellulis basi elongatis angustis, superne subito in oblatas obscuras mutatis, marginalibus hyalinis angustis; perichætialia caulina haud excedentia, e basi pellucida longiora, subulata, angustiora, nervo intus lamellato. Theca inclinata, oblonga, operculo conico rostrato.

Hab. Mexico, *Ruiz et Pavon in Herb. Hooker.*

10. P. ANGUSTIFOLIUM (*Mitt.*). Elatum. Folia densiuscula, a basi erecta, cauli appressa, medio superne flavo tincta, subito contracta, sensim subulato-angustata, acuta, patentia, canaliculata, margine ubique in parte subulata dorsoque dentibus aculeiformibus serrata, pagina interna lamellis brevibus obtecta.

Hab. Brasilia Tropica, *Burchell*, n. 3768.

Caules semipedales, graciles. Folia 5 lineas longa, viridia.

11. P. ELONGATUM (*Beauv. Prod.* 85). Caulis erectus, gracilis, longus, simplex et divisus. Folia linearia, subserrulata. Flores terminales. Theca erecta.

Hab. Ad fretum Magellanicum.

Caule elongato gracili, theca erecta et apophysi speciosa distincta, majore intervallo a sporangio distante a congeneribus e ratione auctoris dignoscitur.—*C. Müll. Syn.* i. 222.

Tribus XXI. BUXBAUMIEÆ.

125. DIPHYSCIUM, Mohr, Obs. 34.

D. PERUVIANUM (*Spruce*). Subacaule. Folia patula, e basi angustiore concaviore spathulata, ligulata, planiuscula, nervo in mucronem excurrente, margine superne dentato, cellulis parvis rotundatis obscuriusculis, superne ad margines obscurioribus, basi paucis elongatis pellucidis; perichætialia plura, externa subulata, interna e basi suboblonga apice abrupte laciniata, nervo in aristam lævem fuscam excurrente. Theca emergens, leptoderma.

Hab. Andes Peruvianæ, in ascensu montis Guayrapurina (2500 ped.), *Spruce*, n. 1492.

Species ob folia dentata a congeneribus statim distinguitur. Habitu staturaque *D. folioso* Europæ et Americæ sept. simile est.

Tribus XXII. SPHAGNEÆ.

126. SPHAGNUM, Linn.

Cortex indistinctus .... 1. *S. pulchricoma.*
Cortex ex una serie cellularum hyalinarum compositus.
  Folia caulina brevia subovata obtusa, integra, limbo indistincto.
  2. *S. mexicanum.*
  Folia caulina oblongo-ovata obtusa, latiuscule limbata.
  3. *S. subsecundum.*
Cortex e serie duplici cellularum compositus.
  Folia caulina subrotunda, fimbriato-lacera ...... 4. *S. fimbriatum.*
  Folia caulina ovalia, subacuminata, integra ...... 5. *S. negrense.*
Cortex e seriebus tribus cellularum compositus.
  Cellulæ corticales inanes.
    Folia caulina oblongo-ligulata, apice rotundato-acuta.
    6. *S. acutifolium.*
    Folia caulina oblonga, acuta .... 7. *S. limbatum.*
    Folia caulina oblongo-spathulata, obtusa ...... 8. *S. peruvianum.*
  Cellulæ corticales fibris repletæ .... 9. *S. cymbifolium.*
Cortex non descriptus.
  Folia caulina rotunda, integerrima, immarginata. . 10. *S. perichætiale.*
  Folia caulina oblonga, apice rotundata.......... 11. *S. meridense.*
  Folia caulina longe oblonga, apice rotundato-truncata.
  12. *S. trinitense.*
  Folia caulina cuneata, apice cellulis dissolutis ciliata.
  13. *S. andinum.*
  Folia ramea ovalia apice toto involuto obtusa .... 14. *S. erythrocalyx.*

1. S. PULCHRICOMA (*C. Müll. Syn.* i. 102). Folia e basi lata truncata triangulari-ovata, obtusa, lateribus utrinque spatiis angustis in folii medio latioribus inanibus; rami cortice cellulis inanibus; folia ramea oblongo-lanceolata, acuta, marginibus superne involutis apice truncatis minute denticulatis, spatiis elongatis, poris paucis; peduncularia ovalia, acuta, spatiis inanibus, cellulis crassiusculis ad margines angustioribus tenuioribus.

S. squarrosum, *Hornsch. in Mart. Fl. Bras. fide C. Müll.*

Hab. Brasilia, *Desvaux*; Sierra dos Orgaos (6000 ped.), *Gardner*; Sta. Catharina, *Pabst*; ad fl. Itarare in stillicidiis una cum *S. cymbifolio*, *Weir*, n. 88. Magellan, Hermite Island, *J. D. Hooker.*

Inter species cæterum affines defectu cellularum corticalium statim distinguenda.

This species, without fructification, is undistinguishable from the usual states of *S. cuspidatum*; and it is probable that it may be found to have an extensive range, for Sullivant's specimens of *S. recurvum*, from the United States, appear to be the same in structure as those from Brazil.

2. S. MEXICANUM (*Mitt.*). Folia e basi lata truncata subovata, subcucullata, spatiis inferioribus inanibus, superioribus fibris repletis, rami cortice e cellulis inanibus; folia ramea ambitu lanceolata, dimidio inferiore erecto basi excavato, superiore patulo squarroso apice truncato denticulato, spatiis latis, poris paucis; peduncularia ovali-acuminata, apice truncata, marginibus limbo distincto spatiis fibro repletis.

Hab. Mexico, Oaxaca in sylvis (3000 ped.), *Galeotti*, n. 6879.

S. molluscoidi C. Müll. Europæ simile, sed caulis cortice ex una serie cellularum, et folia diversiformia.

3. S. SUBSECUNDUM (*Nees et Hornsch. Bryol. Germ.* i. t. 3. f. 7). Folia apice minutissime crenulata, subintegerrima, limbo latiusculo distincto marginata, spatiis angustis omnibus fibrillo repletis; rami cellulis inanibus; folia ramea ovalia apice rotundata, minute crenulata, marginibus superne involutis, limbo sub apice evanido; peduncularia ovalia, apice acuta retusave, limbo latiusculo ubique marginata, spatiis inferioribus inanibus, superioribus repletis.

Hab. Brasilia, Fazenda de Cashambu (2000 ped.), ad rupes humidas, *Weir*, n. 67.

4. S. FIMBRIATUM (*Wils. in Hook. Crypt. Antarct.* 92). Folia caulina spatiis inanibus; rami cortice cellulis inanibus; ramea ovali-lanceolata, acuta, limbo angusto distincto, spatiis latiusculis fibro repletis, poris magnis; peduncularia late oblonga, concava, apice retusa, limbo lato indistincto marginata, spatiis superioribus inanibus, inferioribus et cellulis homomorphis.

Hab. Magellan, Hermite Island, *J. D. Hooker.*

S. acutifolio simile, sed folia caulina apicibus fimbriato-laceris expansis.

5. S. NEGRENSE (*Mitt.*). Folia apice obtuse acuta, cucullata, integra, marginibus limbo angustissimo summo apice crenulato eroso, spatiis elongatis fibris repletis, poris parvis; rami cortice cellulis fibro tenuissimo repletis; folia ramea ovalia, obtusa, apice cucullata, minute crenulato-erosa, limbo angustissimo, spatiis elongatis fibro repletis, poris parvis.

Hab. Fl. Negro, ad rupes cataractæ S. Gabriel irroratas, *Spruce*, n. 1507; ad cataractam Tamanduá, *Spruce*, n. 1508; ad cataractam S. Gabriel, *Spruce*, n. 1509; ad cataractam Carangueja, *Spruce*, n. 1510.

6. S. ACUTIFOLIUM (*Ehrh. Dec. Crypt. Exsic.* 72). Folia basi latiora, limbo e seriebus circiter tribus distincte marginata, spatiis latis ut plurimum inanibus; ramea ovato-lanceolata, marginibus superne involutis, limbo angustissimo apice truncato eroso, spatiis ad margine angustissimis, in folii medio latiusculis fibro repletis, poris 2–3; peduncularia majora, ovalia, concava, marginibus superne involutis, limbo lato indistincto, summo apice eroso.

Hab. Andes Bogotenses, ad viam inter Bogota et Fusagasuga (6000 ped.), *Weir*, n. 125; Paramo inter Bogota et Choachi (9500 ped.), *Weir*, n. 260.

7. S. LIMBATUM (*Mitt.*). Folia apice subintegerrima, subcucullata, limbo lato distincto marginata, spatiis superioribus fibro repletis, inferioribus inanibus; rami cortice cellulis inanibus; folia ramea ovata, marginibus superne involutis, angustissime limbata, apice truncata denticulata, spatiis elongatis, poris parvis.

Hab. Venezuela, prov. Caracas (6000 ped.), *Funck et Schlim*, n. 344; Antioquia, *Jervis*.

S. acutifolio paululo crassius.

8. S. PERUVIANUM (*Mitt.*). Folia integerrima, limbo superne indistincto marginata, spatiis basi inanibus, superne repletis; rami cortice cellulis fibro repletis; folia ramea ovata, marginibus superne involutis, apice truncatis denticulatis, spatiis latiusculis repletis.

Hab. Andes Peruvianæ, in monte Campana (4000 ped.), *Spruce*, n. 1512.

S. cymbifolio similis, sed folia caulina integerrima.

9. S. CYMBIFOLIUM (*Ehrh. in Hannov. Mag.* 1780, 235). Folia ovalia, rotundata, obtusa, limbo indistincto e medio ad apicem minute serrulato, spatiis inferne inanibus, superne latis fibro repletis; rami cortice cellulis fibro repletis; folia ramea ovata, limbo angustissimo inconspicuo, apice minutissime serrulato, spatiis latis brevibus, poris paucis; peduncularia late ovata, apice rotundata, superne serrulata, limbo indistincto, spatiis superioribus repletis, inferne in folii medio cellulis homomorphis.

Hab. Ins. Jamaica, *Wilson*; Guadelupe, *Parker*; Cuba, *Wright*, n. 1. Andes Bogotenses, in descensu a Paramo ad Choachi (7000–8000 ped.), *Weir*, n. 196. Andes Quitenses, *Jameson*. Brasilia, ad fl. Itarare, in stillicidiis (2000 ped.), *Weir*, n. 87; Chili, Sachapata, *Lechler*.

Species cellulis corticalibus ubique fibro repletis, foliisque caulinis superne minute serrulatis, subciliatis, limbo indistincto, a reliquis satis facile diversa.

10. S. PERICHÆTIALE (*Hampe*; *C. Müll. Syn.* i. 93). Humile; caulis robustus, ramis 1–3 approximatis brevibus patentibus, comalibus breviori-

bus erectis dense imbricatis. Folia caulina rotunda, quorum cellulæ subinanes basi longiusculæ, apice dense areolatæ parvæ, ductibus subheteromorphis instructæ; ramea squarrulosa, e basi ovali oblonga obtusa integerrima immarginata apice involuta strictiuscula e cellulis brevibus angulato-serpentinis, ductibus homomorphis interpositis, composita; peduncularia oblonga curviusculo-acuminata obtusiuscula immarginata integerrima, e cellulis omnibus angustis, ductibus heteromorphis angustis inanibus hyalinis interpositis, tenerrimis apice minimis, ante apicem tantum amplioribus repletis composita, plicato-undulata.—*C. Müll. l. c.*

Hab. Brasilia, prope Rio de Janeiro, *Beyrich.*

Cellulæ ramorum repletæ.

Ex habitu *S. compacto* maxime simile sed notis illustratis distinctissimum. A *S. cymbifolio* foliis peduncularibus e cellulis fere ex toto inanibus tenerrimis ductibus heteromorphis inanibus interpositis compositis plicato-undulatis acuminatis distinctissimum.—*C. Müll. l. c.*

11. S. MERIDENSE (*C. Müll. Syn.* i. 95). Compacte cæspitosum, elatum, subrobustum, ramis remotis mollibus subgracilibus attenuatis deflexis, comalibus densissimis brevissimis obtusis dense imbricato-foliosis. Folia caulina vix involuta, e cellulis basi utrinque densissime areolatis, ductibus heteromorphis angustissimis inanibus interpositis, medio basis laxioribus ductibus subhomomorphis omnibus longis, apicem versus brevioribus amplioribus valde serpentinis inanibus vel raro ex parte subrepletis, utriculo primordiali plicato multiplicatis composita, immarginata, integerrima, ramea ovata, acuminata, apice truncatula, subinvoluta, immarginata, integerrima, stricta, erecto-patentia, laxiusculo-imbricata, e cellulis serpentinis subamplis composita; peduncularia latissima, inferiora truncatula, superiora acuminata, e cellulis laxis majoribus basi longioribus, ductibus subheteromorphis interpositis, apice illis foliorum caulinorum similibus, ductibus subhomomorphis interpositis, omnibus inanibus composita.—*C. Müll. l. c.*

Hab. Hispaniola, *Desvaux, Herb. Bridel*; Columbia, in montibus nivosis Meridæ, *Moritz,* n. 179. Andes Bogotenses, *Lindig.*

Cellulæ ramorum inanes.

Inter *S. subsecundum* et *S. acutifolium.* A primo differt jam foliis peduncularibus e cellulis inanibus compositis; a secundo ramis non capillaceis sed crassiusculis patenti-foliosis, comalibus brevibus obtusis non capillaceis acutis et structura foliorum. Notis hisce et colore viridescenti-rufescente cum albescente mixto facillime distinguitur.—*C. Müll. l. c.*

12. S. TRINITENSE (*C. Müll. Syn.* i. 102). Compactum, humile; caulis gracilis tenuissimus ramis subulatis capillaceis. Folia caulina erecta marginata concava, tenuissime membranacea, e cellulis longissimis angustis, ductibus heteromorphis latiusculis interpositis, textura rameorum, serpentinis formata, non scariosa; ramea longissima strictissima tenuissima e reliquis caulinis simillima, suprema valde truncata planissima laxe imbricata.—*C. Müll. l. c.*

Hab. Ins. Trinidad, *Crüger.*

Cellulæ ramorum inanes.

S. laxifolio proximum, foliorum autem caulinorum structura et foliis rameis valde truncatis longissimis aliter reticulatis distinctissimum—*C. Müll. l. c.*

13. S. ANDINUM (*Hampe in Ann. Sc. Nat.* ser. 5. v. 334). *S. cymbifolio* ex habitu simillimum; differt foliis caulinis cuneatis; cellulis basilaribus pentagonis, elongatis, crassis, versus apicem abbreviatis, subquadratis pellucidis; interstitiis crassis lutescentibus, glabris, poris et fibrillis carentibus; perichætialibus latissimis, convolutis, exsertis, cellulis densioribus areolatis vix in apice parce et tenuissime fibrillosis.—*Hampe, l. c.*

Hab. Andes Bogotenses, Monserrata et Bogota, Guadelupe (2800 metr.), *Triana et Goudot*; Peruvia, *C. Gay.*

14. S. ERYTHROCALYX (*Hampe*; *C. Müll. Syn.* i. 92). Compactum, ramis confertis crassis erectis; comales cæteris similes. Folia ramea brevia ovalia lata valde concava immarginata integerrima; peduncularia rotundato-ovalia valde convoluta pauca rameis multo majora, membranacea rufescentia, basi e cellulis longiusculis fuscis ductibus subheteromorphis instructis inanibus et solitarie sed grande perforatis, utrinque supra basin folii et apice toto e cellulis tenuioribus repletis brevioribus amplioribus parvo-perforatis composita obtusissima immarginata cellularum parietibus productis denticulata.—*C. Müll. l. c.*

Hab. Brasilia, *Beyrich.*

Cellulæ ramorum inanes. *S. cymbifolio* et *S. compacto* ex habitu simillimum, sed a primo differt foliis peduncularibus maximis rufescentibus fere julaceo-convolutis calyciformibus, eorum textura cellulis mediis *S. cymbifolii* aliter constructis deficientibus, foliis rameis dorso apicis sublævissimis et cellulis ramorum inanibus. A secundo differt foliis rameis non truncatis et foliis peduncularibus obtusis aliter constructis.—*C. Müll. l. c.*

Tribus XXIII. ANDREÆÆ.

127. ANDREÆA, Ehrh. in Hannov. Mag. 1778.

Folia enervia.
  Theca fere ad basin usque dehiscens.
    Folia ovata ovaliave acuminata .... 1. *A. petrophila.*
    Folia ovato-lanceolata, apice incurva et cucullata. 2. *A. turgescens.*
    Folia oblongo-lanceolata, panduriformia, acuta. 3. *A. brevipes.*
    Folia ovato-lanceolata .... 4. *A. striata.*
    Folia lanceolato-subulata .... 5. *A. acutifolia.*
    Folia a basi ovata longe subulato-angustata .. 6. *A. marginata.*
    Folia ovata, subito acuminata .... 7. *A. alpina.*
    Folia longe subulato-attenuata, subsecunda .. 8. *A. laxifolia.*

Folia late lanceolata, inferne serrulata ...... 9. *A. appendiculata.*
Folia panduriformia acuminata .... 10. *A. squarrosa.*
Theca apice tantum dehiscens .... 11. *A. Wilsoni.*
Folia nervata.
Folia ovata obovatave .... 12. *A. subenervis.*
Folia a basi breviter ovali subulata .... 13. *A. subulata.*

1. A. PETROPHILA (*Ehrh. Beitr.* i. 192). Folia basi excavata, apice obtusa, marginibus integerrimis sæpe incurvis, cellulis superioribus rotundatis, parietibus angustioribus dorso lævibus, basi elongatis; perichætialia ovata, obtuse acuta, convoluta. Theca exserta, ad $\frac{2}{3}$ fissa.

Hab. Andes Quitenses, in summo monte Pichincha, *Jameson.*

2. A. TURGESCENS (*Schimp.; C. Müll. Syn.* ii. 515). Dense cæspitosa, atro-rufa; rami teretes. Folia conferta, adscendendo magis approximata, sicca imbricata, humida undique patentia, ovato-lanceolata, summa lanceolata, dorso tuberculosa; perichætialia late lanceolata, longiora. Theca *A. rupestris.—C. Müll. l. c.*

Hab. Mexico, in summo monte vulcanico "Pico de Orizaba" (14,000 ped.), una cum *Grimmia fuliginosa, Liebmann.*

Planta, quamvis vix semiuncialis, illa *A. rupestris* robustior, ramis clavatis insignis.—*C. Müll. l. c.*

3. A. BREVIPES (*Spruce in Proc. Linn. Soc.* 1859). Folia dorso sub apice papillosa, e basi erectiore excavata erecto-patentia, incurva, imbricata, integerrima, cellulis superioribus minutis rotundis, parietibus angustioribus, inferioribus elongatis; perichætialia ovalia, interne obovata, breviter acuminata. Theca ad $\frac{2}{3}$ fissa.

Hab. Andes Bogotenses, Paramo inter Bogota et Choachi (10,000 ped.), ad lapides late cæspitosa, *Weir,* n. 175. Andes Peruvianæ, in monte Titaicun saxicola (12,000–13,000 ped.), *Spruce,* n. 1515.

Magnitudine habituque *A. petrophilæ* similis.

4. A. STRIATA (*Mitt.*). Folia dense inserta, e basi excavata erectiore patenti-incurva, marginibus integerrimis superne incurvis, cellulis superne subovalibus, parietibus latis, ad margines brevioribus, inferne elongatis; perichætialia ovali-acuminata, dorso superne papillosa, lineis fuscis exarata. Theca ad $\frac{2}{3}$ fissa.

Hab. Andes Quitenses, *Jameson*; Brasilia, in summis montium Sierra dos Orgaos, *Gardner,* n. 1.

A. petrophilæ formæ robustiori simillima, sed foliis cellulis minoribus, perichætialibus acuminatis striatisque diversa.

5. A. ACUTIFOLIA (*Hook. f. et Wils. in Hook. Lond. Journ.* iii. 535; *Crypt. Antarct.* t. 151. f. 2). Folia e basi brevissima erectiore erecto-patentia, sensim angustata, margine inferne supra basin crenulato superne

incurvo, cellulis superioribus oblongis, basi elongatis; perichætialia lanceolata, acuminata, convoluta. Theca exserta.

Hab. Fuegia, Hermite Island, *J. D. Hooker*.

6. A. MARGINATA (*Hook. f. et Wils. in Hook. Lond. Journ.* iii. 535; *Crypt. Antarct.* t. 151. f. 1). Folia basi medio constricta, inferne erectiora excavata, superne patentia, marginibus basi minute serrulatis, cellulis superioribus in folii medio oblongis, ad margines abbreviatis, inferioribus in folii medio elongatis, ad margines pluribus parvis pellucidioribus obliquis; perichætialia late ovata, acuta, convoluta. Theca exserta ad $\frac{2}{3}$ fissa.

Hab. Fuegia, Hermite Island, *J. D. Hooker*.

Ab *A. petrophila*, foliis longius subulato-acuminatis cellulis longioribus differt.

7. A. ALPINA (*Dill.* t. 73. f. 39). Folia dense inserta, ambitu explanata, ovata, subito acuminata, medio constricta, dimidio inferiore erecta excavata, marginibus serrulatis, superiore patenti-incurva, marginibus incurvis, concava, cellulis superioribus parvis parietibus grossioribus, inferioribus elongatis; perichætialia oblonga obovatave, obtusa, apiculo parvo.

Hab. Fuegia, Hermite Island, *J. D. Hooker*.

8. A. LAXIFOLIA (*Hook. f. et Wils. in Hook. Lond. Journ.* iii. 536, *Crypt. Antarct.* t. 151. f. 4). Monoica. Folia in ramis sterilibus e basi brevi erectiore excavata, patula, in ramis fructiferis e basi sensim patente lanceolata, subulata, apicibus obtusis cucullatis, marginibus superne involutis, cellulis superioribus suboblongis angulosis parietibus latioribus, basi paucis longioribus; perichætialia late ovalia, acuta, convoluta. Theca in pedunculo brevi exserta, ovata, ad $\frac{2}{3}$ fissa.

Hab. Fuegia, Hermite Island, *J. D. Hooker*.

Ex habitu *A. Wilsoni* simillima.

9. A. APPENDICULATA (*Schimp.*; *C. Müll. in Bot. Zeit.* 1864, 373); Folia e basi erectiore patentia, basi subexcavata, marginibus supra basin serrulatis, cellulis superne rotundatis inferne elongatis; perichætialia ovata. convoluta, marginibus inferne subserrulatis.

A. rupestris, *Hook. f. et Wils. in Musc. Antarct.*

Hab. Fuegia, Hermite Island, Cape Horn, *J. D. Hooker*.

10. A. SQUARROSA (*Mitt.*). Folia in ramis sterilibus e basi erecta cauli appressa, reflexa, squarrosa, dorso sub apice papillosa, marginibus supra basin minute crenulatis, cellulis superne minutissimis ovalibus angulosis, inferne elongatis angustis, in ramis fertilibus e basi erecta excavata patenti-incurva; perichætialia interna ovalia, acuta. Theca fere ad basin fissa.

Hab. Andes Quitenses, *Jameson*; America australis, *Lobb*.

A. alpinæ simillima, sed folia cellulis angustioribus et perichætialia nunquam subito acuminata.

11. A. WILSONI (*Hook. f. in Hook. Lond. Journ.* iii. 536 et 538; *Crypt.*

Antarct. t. 151. f. 3). Dioica? Folia in ramis sterilibus e basi brevi excavata recurva, patentia, ob margines inflexos panduriformia, subulata, apicibus obtusiusculis, in ramis fertilibus ovali-acuminata, appressa, erecto-patentia, marginibus incurvis concava, cellulis superioribus subovalibus angulosis, parietibus latioribus, infra folii medium elongatis conflatis; perichætialia ovalia, acuta, subacuminata, convoluta, basi nervo disperso. Theca in pedunculo brevi exserta, cylindracea.

Acroschisma andensis, *Spruce in Proc. Linn. Soc.*

Hab. Andes Peruvianæ, in monte Tunguragua ad rupes rivuli Mapayacu (11,000 ped.), *Spruce*, n. 1514. Fuegia, Hermite Island, *J. D. Hooker*.

12. A. SUBENERVIS (*Mitt.*). Folia laxa, patula, ovalia oblongo-ovalia obovatave, plus minus excavata, apice rotundata, ut plurimum apiculo minuto terminata, basi angulis rotundatis, nervo lato brevi disperso, cellulis superioribus et ubique ad margines rotundatis, inferne in folii medio elongatis.

Hab. Andes Novo-Granatenses, *Purdie*. Andes Quitenses, *Jameson*.

Species foliis magnis sola *A. nitidæ* comparanda.

13. A. SUBULATA (*Harv.*; *Hook. Ic. Pl.* t. 201). Monoica. Folia patentia, subsecunda falcatave, integerrima, nervo basi tertiam folii latitudinis apicem versus folium totum occupante, cellulis minutis rotundatis in folii medio ad nervum paucis elongatis; perichætialia ovalia, obtusa, convoluta, nervo excurrente subulato incrassato. Theca ovata.

A. pseudo-subulata, *C. Müll. in Bot. Zeit.* 1864, 373.

Hab. Fuegia, Ins. Hermite, *J. D. Hooker*.

ADDENDA ET CORRIGENDA.

Page 158, after 41. T. NOVOGRANATENSIS, insert:—

41*. T. OLIVACEA (*Bescherelle, MS.*). Caulis humilis. Folia a basi brevi erectiore patentia, ovato-lanceolata, obtusiuscula, margine late recurva, nervo crasso percurrente, cellulis basi interioribus oblongis quadratisve pellucidis, reliquis parvis rotundatis obscuris; perichætialia erectiora, dimidio longiora, oblongo-lanceolata, obtusiuscula. Theca in pedunculo elongato flexuoso oblonga, erecta, operculo subulato.

Hab. Vall. de Mexico, *Bourgeau*, n. 1331.

Caulis semiunciam altus. Folia semilinearia, olivaceo-viridia. Pedunculus 4–5 lineas longus.

Page 254, line 9:—

In place of GLYPHOCARPUS, insert ISOMELA.

Page 270, line 7, for *Glyphocarpus*, read *Isomela*, and add:—

On investigation of the specimens upon which the genus *Glyphocarpa* was originally founded, it appears that they are diminutive species of *Breutelia*.

Page 509, before CTENIDIUM, insert:—

95*. CAMPYLIUM, Sulliv. Musc. Hepat. U. St. 677.

C. HISPIDULUM (*Brid. Mart.* 175, Hypnum). Monoicum; caulis prostratus, ramis in cæspitem compactum depressum congestis ramosus. Folia squarrosa, e basi lata triangulari-ovata, subulato-acuminata, integerrima vel subserrulata, nervis obsoletis, cellulis elongatis; perichætialia erecta, nervata. Theca in pedunculo elongato inclinata, peristomii interni ciliis cohærentibus subtrabeculatis.

Hab. Andes Bogotenses, *Lindig et Weir.*

Species pusilla, ramis 1–2-linearibus, foliis parvis viridibus fuscescentibus.

Page 529, after E. JAMESONI, insert:—

19*. E. SERRULATUS (*Mitt.*). Caulis procumbens, ramis adscendentibus breviusculis pinnatim divisis. Folia compressa, media elliptico-lanceolata, lateralia basi inæqualia lanceolata, omnia angulis basilaribus dilatatis subauriculatis, breviter binervia, margine inferne recurva, e medio ad apicem usque serrulata, cellulis ad angulos pluribus abbreviatis, reliquis elongatis angustis; perichætialia erecta, appressa, interna oblonga acuminata. Theca pallide fusca, operculo brevi acuminato, peristomii dentibus processibusque æquilongis.

Hab. Guatemala, *Godman et Salvin.*

E. Jamesoni similis, sed foliis inferne angustioribus superne haud acuminatis et magis serrulatis differt.

INDEX.

Page
Acidodontium
Kunthii, Schwægr. 287
subrotundum, Hook. et Wils. 287
Acrocladium 531
auriculatum, *Mont.* 532
politum, *Hook. et Wils* 531
Acroschisma
andensis, Spruce 630
Adelothecium, *Mitt.* 391
bogotense, *Hampe* 391
Amblyostegium, *Schimp.* 569
andinum, *Mitt.* 570
capillaceum, *Mitt.* 570
fuegianum, *Mitt.* 570
leitense, *Mitt.* 571
longifolium, *Wils.* 571
radicale, *Beauv.* 569
riparium, *Linn.* 570
serpens, *Linn.* 569
sordidum, *C. Müll.* 571
uncinatum, *Hedw.* 570
Anacalypta
subcæspitosa, Hampe 140
Anacamptodon, *Brid.* 540
cubensis, *Sulliv.* 540
Maynensis, Spruce 540
Andreæa, Ehrh. 627
acutifolia, *Hook. et Wils* 628
alpina, *Dill.* 629
appendiculata, *Schimp.* 629
brevipes, *Spruce* 628
laxifolia, *Hook. et Wils.* 629
marginata, *Hook. et Wils.* 629
petrophila, *Ehrh.* 628
pseudosubulata, C. Müll. 630
rupestris, Hook. et Wils. 629
squarrosa, *Mitt.* 629
striata, *Mitt.* 628
subenervis, *Mitt.* 630
subulata, *Harv.* 630
turgescens, *Schimp.* 628
Wilsoni, *Hook. f.* 629
Andreææ 25, 627
Angstrœmia, *Br. et Schimp.* 27

Page
Angstrœmia
andicola, *C. Müll.* 27
bicolor, C. Müll. 35
bogotensis, Hampe 37
brachyblepharis, C. Müll. 34
callosa, Hampe 36
campylophylla, C. Müll. 40
compacta, Schimp. 37
consimilis, Hampe 32
convoluta, Hampe 40
crassinervia, Hampe 38
curviseta, Hampe 38
ditissima, Hampe 34
euchlora, C. Müll. 35
Gayana, *Mont.* 27
Hookeri, C. Müll. 39
julacea, *Hook.* 27
Liebmanniana, C. Müll. 31
Lindigiana, Hampe 30
microdonta, Schimp. 35
muralis, Hampe 33
Pabstiana, C. Müll. 31
pusilla, Hampe 31
strumulosa, Hampe 36
tovariensis, C. Müll. 31
vulcanica, *Brid.* 28
Anisostichium
Bakeri, Mitt. 319
Anisothecium 39
campylophyllum, *Tayl.* 40
convolutum, *Hampe* 40
Jamesoni, *Tayl.* 39
planinervium, *Tayl.* 40
vaginatum, *Hook.* 39
varium, *Hedw.* 40
Anœctangium, *Hedw.* 175
æstivum, *Hedw.* 175
andinum, *Mitt.* 177
calidum, *Mitt.* 176
compactum, Schwægr. 176
euchloron, *Schwægr.* 176
euchloron, Mitt. 176
Lechlerianum, *Mitt.* 177
peruvianum, *Sulliv.* 177

Page

- Anœctangium
  - sordidum, *Mitt.* 176
  - *tenellum*, Mitt. 176
  - tenerrimum, *C. Müll.* 176
  - *torquatum*, Hook. 331
- *Anomodon*
  - *angustatus*, Hampe 567
- *Antitrichia*
  - *brasiliensis*, Hornsch. 427
- Apalodium 238
  - australe, *Hook.* 239
  - pellucens, *Hook.* 238
- *Arthrocormus*
  - *pulvinatus*, Dozy 110
- *Aschistodon*
  - *conicum*, Mont. 44
- *Astomum*
  - *Robinsonii*, C. Müll. 26
- Atractylocarpus, *Mitt.* 71
  - mexicanus, *Mitt.* 71
- Atrichum, *Beauv.* 604
  - Œrstedianum, *C. Müll.* 605
  - pastasanum, *Mitt.* 605
  - polycarpum, *Schimp.* 604
- Aulacomnion, *Schwægr.* 316
  - *flexifolium*, Wils. 237
  - Gaudichaudi, *Schwægr.* 317
  - *pentastichum*, Mont. 238
  - venezuelanum, *Dozy et Molk.* 317

- *Barbula*, v. Tortula
  - *affinis*, Hampe 174
  - *andicola*, Mont. 170
  - *bogotensis*, Hampe 171
  - *breviseta*, Mont. 172
  - *contorta*, Hampe 169
  - *depressa*, Sulliv. 151
  - *fusca*, C. Müll. 160
  - *geniculata*, Mont. 161
  - *glacialis*, Kunze 173
  - *Goudotii*, Hampe 171
  - *gracilis*, Sulliv. 161
  - *graminicolor*, C. Müll. 160
  - *Kunzeana*, C. Müll. 169
  - *lurida*, Hornsch. 137
  - *marginata*, Br. et Schimp. 167
  - *mniifolia*, Sulliv. 167
  - *mnioides*, Schwægr. 179
  - *Muelleri*, Br. et Schimp. 170
  - *muricola*, C. Müll. 166
  - *obtusissima*, C. Müll. 175
  - *Pœppigiana*, C. Müll. 149
  - *scabrinervis*, C. Müll. 173
  - *spiralis*, Schimp. 151
  - *Sprengelii*, Schwægr. 155

Page

- *Barbula*
  - *stenocarpa*, Hampe 162
  - *teretiuscula*, Schimp. 160
  - *Trianæ*, Hampe 172
- Bartramia, *Hedw.* 251
  - aciphylla, *Wils.* 266
  - ambigua, *Mont.* 270
  - andina, *Mitt.* 261
  - angulata, *Tayl.* 256
  - angustifolia, *Mitt.* 273
  - appressa, *Hook. f.* 259
  - aristata, *Mitt.* 269
  - australis, *Sw.* 267
  - Berteroana, *C. Müll.* 258
  - *bogotensis*, Hampe 271
  - carinata, *Mitt.* 266
  - costaricensis, *C. Müll.* 271
  - curvata, *Hampe* 256
  - cycnea, *Mont.* 255
  - dumosa, *Mitt.* 267
  - elegantula, *Tayl.* 259
  - erecta, *Mitt.* 255
  - erythrocaulis, *C. Müll.* 262
  - *exigua*, Sulliv. 259
  - flavicans, *Mitt.* 270
  - fontanella, *Hampe* 261
  - fontanoides, *Gill.* 256
  - Gardneri, *C. Müll.* 261
  - *glauca*, Gill. 256
  - gracilenta, *Hampe* 260
  - Halleriana, *Hedw.* 272
  - hispida, *Mitt.* 264
  - humilis, *Mitt.* 270
  - incana, *Tayl.* 263
  - integrifolia, *Tayl.* 267
  - *intertexta*, Schimp. 269
  - jamaicensis, *Mitt.* 265
  - Jamesoni, *Tayl.* 269
  - Lindigii, *Hampe* 255
  - longifolia, *Hook.* 273
  - *longifolia*, Mitt. 273
  - lutescens, *Hampe* 269
  - *macrocarpa*, Hampe 264
  - *macrotheca*, Hampe 264
  - magellanica, *Sulliv.* 268
  - Mathewsii, *Mitt.* 273
  - microdonta, *Mitt.* 263
  - microstoma, *Mitt.* 272
  - minuta, *Tayl.* 259
  - *Mossmanniana*, C. Müll. 273
  - Mülleri, *Mont.* 273
  - Osculatiana, *De Not.* 259
  - Pabstiana, *C. Müll.* 258
  - patens, *Brid.* 275
  - patula, *Mitt.* 251

Page
Bartramia
pinnata, *Hampe* 265
plicata, *Mitt.* 266
pomiformis, *Hedw.* 272
potosica, *Mont.* 272
potosica, C. Müll. 274
remotifolia, Hook. f. 259
rufiflora, *Hornsch.* 257
rupestris, *Mitt.* 266
scabrida, Schwægr. 261
Schimperi, *C. Müll.* 271
scoparia, *Schwægr.* 264
setifolia, *Hook.* 268
sphæricarpa, *Swartz* 261
squarrosa, *Mitt.* 265
striatula, *Mitt.* 259
strumosa, *Hampe* 270
subarcuata, *Schimp.* 262
subpatens, *Hampe* 271
subsessilis, *Tayl.* 268
tenella, *C. Müll.* 257
tomentosa, *Sw.* 263
Trianæ, *Hampe* 265
uncinata, *Schwægr.* 261
vagans, *Hook. f.* 262
versifolia, *Hampe* 260
viridissima, C. Müll. 269
Bartramieæ 16, 251
Blindia 55
arcuata, *Mitt.* 55
curviseta, *Mitt.* 56
tenuifolia, *Hook. f.* 56
Brachymenium
ovatum, *Hook. f.* 317
Brachymitrium
Jamesoni, Tayl. 249
Brachyodus 28
flexisetus, *Hampe* 28
Brachypodium
parasiticum, Brid. 127
Brachysteleum
crispatum, Hornsch. 106
lepidomitrium, Schimp. 106
Sellowianum, C. Müll. 106
serratum, Schimp. 106
Braunia
Liebmanniana, Schimp. 407
Bruchia
Hampeana, C. Müll. 25
Bryeæ 16, 274
Bryoziphium, *Mitt.* 580
norvegicum, *Brid.* 580
Bryum, *Linn.* 275
albicans, *Wahlenb.* 294
albidum, Linn. 109

Page
Bryum
andicola, *Hook.* 314
angustifolium, *Brid.* 300
apiculatum, *Schwægr.* 301
argenteum, *Linn.* 303
atropurpureum, Web. 302
Auberti, Hornsch. 313
Beyrichianum, *Hornsch.* 316
bimum, *Schreb.* 297
brachyphyllum, *Mitt.* 302
brevicaule, *Schimp.* 303
bulbillosum, Mont. 302
candicans, *Tayl.* 303
capillare, *Linn.* 310
capillifolium, *C. Müll.* 280
cavum, *C. Müll.* 308
chryseum, *Mitt.* 304
clavatum, *Schimp.* 307
concavum, *Mitt.* 309
congestum, *Mitt.* 309
conicum, *Hornsch.* 299
consimile, *Mitt.* 281
coronatum, *Schwægr.* 310
crinitum, Mitt. 280
crudum, *Hedw.* 293
Crügeri, *Hampe* 298
densifolium, *Brid.* 313
dichotomum, *Hedw.* 301
didymodontium, *Mitt.* 289
Ehrenbergianum, *C. Müll.* 312
ellipticum, *Mitt.* 289
erythrocarpum, *Schwægr.* 302
erythroneuron, *Mitt.* 312
exaltatum, *Spruce* 285
filinerve, *Mitt.* 305
flexisetum, *Mitt.* 295
fusiferum, *Mitt.* 290
Gardneri, *Mitt.* 296
Gayanum, *Mont.* 294
Gilliesii, *Hook.* 288
glaucum, Linn. 111
globosum, *Mitt.* 289
Goudotii, *Hampe* 315
gracilescens, C. Müll. 313
gracilisetum, *Hornsch.* 299
grandifolium, *Tayl.* 314
heteromallum, Dill. 37
heteroneurum, *Spruce* 281
Hornschuchianum, *Mart.* 281
humile, Mont. 275
imbricatifolium, *C. Müll.* 282
integridens, *C. Müll.* 292
Jamesoni, *Tayl.* 283
julaceum, *Sm.* 306
Klotzschii, *Schwægr.* 283

Page

Bryum
  Lansbergii, Dozy 298
  Lechleri, C. Müll. 314
  leptocladon, *Sulliv.* 302
  leptodontium, *Mitt.* 293
  Liebmannianum, C. Müll. 304
  limbatum, *C. Müll.* 300
  Lindigianum, *Hampe* 315
  macropelma, *C. Müll.* 308
  magellanicum, *Sulliv.* 284
  Martianum, *C. Müll.* 283
  Maynense, *Spruce* 312
  megalocarpum, *Hook.* 286
  mexicanum, *Mont.* 282
  Meyenianum, *Hampe* 288
  microcarpum, *Hornsch.* 300
  microchætum, *Hampe* 298
  multiflorum, *Hornsch.* 299
  murale, Linn. 166
  nivale, *C. Müll.* 297
  nutans, *Schreb.* 292
  Œrstedianum, *C. Müll.* 292
  orbiculatum, *Mitt.* 306
  orthodontoides, C. Müll. 288
  ovalifolium, Sulliv. 298
  Pabstianum, C. Müll. 296
  pallens, *Sw.* 311
  papillosum, *C. Müll.* 290
  patens, Wils. 313
  patulum, *Schimp.* 280
  paucifolium, *Hampe* 292
  philippianum, *C. Müll.* 297
  plagiopodium, *Schimp.* 304
  platyphyllum, *Schwægr.* 295
  polycarpum, *Mitt.* 293
  proliferum, *Mitt.* 311
  prostratum, *C. Müll.* 306
  pungens, *Tayl.* 304
  pyriforme, *Linn.* 293
  radiculosum, *Schwægr.* 284
  ramicola, *Mitt.* 286
  Regnellii, *Hampe* 282
  remotifolium, *Hampe* 300
  rhamphostegium, *Hampe* .. 287
  rigidum, *Hornsch.* 313
  rosulatum, *C. Müll.* 314
  Sellowianum, C. Müll. 283
  semimarginatum, *Hampe* 296
  seminerve, *Hook. et Wils.* .. 285
  semiovatum, *Brid.* 305
  sericeum, *Mitt.* 305
  smaragdinum, *C. Müll.* 290
  soboliferum, *Tayl.* 309
  socorrense, *Hampe* 295
  sordidum, *Hampe* 307

Page

Bryum
  spectabile, *C. Müll.* 291
  Sprucei, *Mitt.* 285
  subcurvatum, *Mitt.* 291
  subpilosum, *Mitt.* 307
  subrotundum, *Tayl.* 287
  systylium, *C. Müll.* 280
  Taylori, *C. Müll.* 287
  tenellum, *Schimp.* 303
  tenuicaule, *Mont.* 307
  terebellum, Hampe 311
  tomentosum, Sw. 263
  torquescens, *Bruch* 296
  turbinatum, *Hedw.* 301
  vagans, Hook. et Wils. 262
  Wagneri, *C. Müll.* 308
  Wahlenbergii, Bryol. Eur. .. 294
  Wilsoni, *Mitt.* 288
  Wrightii, *Sulliv.* 284
Buxbaumieæ 24, 622

Calymperes, *Sw.* 126
  androgynum, Mont. 124
  Cruegeri, *C. Müll.* 128
  disciforme, *C. Müll.* 126
  erosum, *C. Müll.* 127
  Guildingii, *Hook. et Grev.* .. 128
  Hobsoni, Grev. 122
  Lindigii, *Hampe* 127
  lonchophyllum, *Schwægr.* .. 129
  parasiticum, *Sw.* 127
  platyloma, *Mitt.* 128
  Richardi, *C. Müll.* 127
  tenuifolium, Sulliv. 117
Campylium, *Sulliv.* 631
  hispidulum, *Brid.* 631
Campylopus, *Brid.* 72
  acervatus, *Mitt.* 87
  acuminatus, *Mitt.* 90
  annotinus, *Mitt.* 80
  arctocarpus, *Hornsch.* 87
  arenicola, *C. Müll.* 77
  areodictyon, *C. Müll.* 85
  asperifolius, *Mitt.* 79
  brachyphyllus, *Mitt.* 81
  canescens, Schimp. 84
  cavifolius, *Mitt.* 87
  chilensis, *De Not.* 85
  chionophilus, *C. Müll.* 81
  Chrismari, *C. Müll.* 88
  chrysodictyon, *Hampe* 78
  concolor, *Hook.* 82
  cubensis, Sulliv. 76
  cuspidatus, *Hornsch.* 90
  cygneus, *Hedw.* 76

Page
Campylopus
erectus, *C. Müll.* 89
exustus, *Mitt.* 83
filicaulis, *Hampe* 76
filifolius, *Hornsch.* 76
fimbriatus, *Mitt.* 88
flagellaceus, *C. Müll.* 77
Gardneri, *C. Müll.* 83
giganteus, Sulliv. 82
gracilicaulis, *Mitt.* 83
griseus, Hornsch. 84
guadelupensis, *Brid.* 77
heterophyllus, *Mitt.* 77
humilis, *Mont.* 76
incrassatus, *Kunze* 89
introflexus, *Hedw.* 84
jamaicensis, *Mitt.* 82
lævis, *Tayl.* 91
lamellatus, Mont. 84
lamellinervis, *C. Müll.* 82
lamprodictyon, *Hampe* 78
leptodus, *Mont.* 91
leucogaster, *C. Müll.* 75
leucotrichus, Sulliv. 84
lutescens, Schimp. 84
macrophyllus, *Kunze* 80
microstomus, Mitt. 75
nigrescens, Duby 90
occultus, *Mitt.* 86
Œrstedianus, *C. Müll.* 81
pauper, *Hampe* 76
penicillatus, Wils. 82
polytrichoideus, De Not. 84
porphyrodictyon, *C. Müll.* 75
proliferus, *C. Müll.* 85
propinquus, *Hampe* 75
Richardi, *Schwægr.* 90
rosulatus, *Hampe* 79
savannarum, *C. Müll.* 85
scabrellus, *Mitt.* 86
Sprucei, *Mitt.* 81
subconcolor, *Hampe* 86
surinamensis, *C. Müll.* 89
tenuissimus, Sulliv. 75
trachyblepharon, *C. Müll.* 80
Widgrenii, *C. Müll.* 88
xanthophyllus, Mont. 84
Catharinea
ciliata, C. Müll. 608
dendroides, C. Müll. 612
magellanica, Brid. 609
Molinæ, C. Müll. 606
Œrstediana, C. Müll. 605
polycarpa, C. Müll. 604
Riedeliana, Hampe 606
squamosa, C. Müll. 612

Page
Catharinea
Trianæ, Hampe 611
trichodon, C. Müll. 607
Ceratodon, *Brid.* 47
purpureus, *Linn.* 47
Chætophora
Perrini, Brid. 373
Cladodium
rhamphostegium, Hampe 287
socorrense, Hampe 295
Cladomnion, *Hook. f. et Wils.* 535
gracile, *Hampe* 535
Clasmatodon
parvulus, Sulliv. 549
Codonoblepharum
Menziesii, Schwægr. 231
Conomitrium
acutifolium, Lindb. 602
Berterii, Mont. 584
Dillenii, Mont. 584
Hedwigii, Mont. 584
intromarginatum, Hampe 594
Lindigii, Hampe 601
mexicanum, Schimp. 584
psatyrocheilon, Schlph. 597
radicans, C. Müll. 587
stissotheca, Hampe 585
Cryphæa, *Brid.* 410
apiculata, *Mitt.* 411
brevipila, *Mitt.* 413
consimilis, *Mont.* 414
cuspidata, *Sulliv.* 416
decurrens, *C. Müll.* 414
fasciculosa, *Mitt.* 411
filiformis, Hornsch. 413
Gardneri, *Mitt.* 415
Gorveana, *Mont.* 416
intermedia, *C. Müll.* 412
Jamesoni, *Tayl.* 413
julacea, *Hornsch.* 415
latifolia, *Mitt.* 411
patens, *Hornsch.* 413
pilifera, *Mitt.* 412
ramosa, *Wils.* 412
rubricaulis, *Mitt.* 415
rufescens, *Schimp.* 416
Schiedeana, *C. Müll.* 413
tenella, *Mitt.* 414
tenuissima, Hook. 447
Cryptopodium
Hookeri, Hampe 269
Ctenidium, *Schimp.* 509
aurifolium, *Mitt.* 509
malacodes, *Mitt.* 509
prægracile, *Mitt.* 510
reduncum, *Schimp.* 509

Page
Ctenidium
trichocladum, *Tayl.* 510
Cylindrothecium
amplirete, Wright 382
Cymbaria
Jamesoni, Tayl. 604
Cynodontium
bogotense, Hampe 42
Cynodontodium, *Hedw.* 41
affine, *C. Müll.* 42
australe, *Mitt.* 42
capillaceum, *Hedw.* 41
conicum, *Mont.* 44
crinale, *Tayl.* 44
elongatum, *Hook. f.* 43
gracile, *Mitt.* 43
Hookeri, *C. Müll.* 42
hyalinum, *Mitt.* 43
rufescens, *Hampe* 44
strictum, *Mitt.* 42

Daltonia, *Hook. et Tayl.* 398
bilimbata, *Hampe* 400
binervis, Hampe 371
brasiliensis, *Mitt.* 399
compressa, *Mitt.* 400
cucullata, *Hampe* 400
gracilis, *Mitt.* 402
irrorata, *Mitt.* 399
Jamesoni, *Tayl.* 401
longifolia, *Tayl.* 399
macrotheca, *Mitt.* 402
ovalis, *Tayl.* 401
peruviana, *Mitt.* 401
pulvinata, *Mitt.* 398
stenophylla, *Mitt.* 402
tenuifolia, *Mitt.* 402
trachyodonta, *Mitt.* 400
Dendropogon
rufescens, Schimp. 416
Desmatodon
amblyophyllum, Mont. 168
Dicraneæ 12, 25
Dicranella 28
angustifolia, *Mitt.* 35
aulacocarpa, *Mont.* 36
bicolor, *C. Müll.* 35
bogotensis, *Hampe* 37
brachyblepharis, *C. Müll.* 34
callosa, *Hampe* 36
compacta, *Schimp.* 37
consimilis, *Hampe* 32
curviseta, *Hampe* 38
densa, *Hook.* 36
ditissima, *Hampe* 34
elata, *Schimp.* 33

Page
Dicranella
euchlora, *Mont.* 35
exigua, *Schwægr.* 30
guadelupensis, *Mitt.* 37
Guilleminiana, *Mont.* 32
heteromalla, *Dill.* 37
Hilariana, *Mont.* 31
Kunzeana, *C. Müll.* 34
Liebmanniana, *C. Müll.* 32
Lindigiana, *Hampe* 30
longirostris, *Schwægr.* 30
luteola, *Mitt.* 33
microdonta, *Schimp.* 35
muralis, *Hampe* 33
Pabstiana, *C. Müll.* 31
Perrottetii, *Mont.* 35
pusilla, *Hampe* 31
strumulosa, *Hampe* 36
tenuirostris, *Kunze* 30
tovariensis, *C. Müll.* 32
Dicranum, *Hedw.* 61
aciphyllum, *Hook. f.* 64
antarcticum, *C. Müll.* 63
arctocarpum, Hornsch. 87
arenicola, C. Müll. 77
areodictyon, C. Müll. 85
aulacocarpum, Mont. 36
Berterianum, Brid. 122
Billardieri, *Schwægr.* 66
brachyphyllum, Mitt. 81
Bridelianum, C. Müll. 93
campylophyllum, Tayl. 40
chionophyllum, C. Müll. 81
Chrismari, C. Müll. 88
chrysodictyon, Hampe 78
circinatum, Brid. 122
concolor, Hook. 82
Cruegerianum, C. Müll. 92
cryptodon, *Mont.* 63
curvatum, Hornsch. 34
cuspidatum, Hornsch. 90
cygneum, Hedw. 76
debile, Hook. et Wils. 30
densum, Hook. 36
erectum, Mitt. 65
erectum, C. Müll. 89
ericetorum, Mitt. 84
euchlorum, Mont. 35
fastigiatum, *Tayl.* 63
filicaule, Hampe 74
filifolium, Hornsch. 76
filiforme, Schwægr. 28
flagellaceum, C. Müll. 77
frigidum, *C. Müll.* 67
Gardneri, C. Müll. 83
Gayanum, Mont. 27

Page

Dicranum
Goudotii, *Hampe* 65
guadelupense, Brid. 77
Guilleminianum, Mont. 32
Hilarianum, Mont. 31
imponens, *Mont.* 66
incrassatum, Kunze 89
inerme, *Mitt.* 63
introflexum, Hedw. 84
involutifolium, Sulliv. 66
Jamesoni, Hook. 83
Jamesoni, Tayl. 39
lævigatum, C. Müll. 90
lamellicosta, C. Müll. 90
lamellinerve, C. Müll. 82
lamprodictyon, Hampe 78
leptocephalum, C. Müll. 84
leucogaster, C. Müll. 75
Liebmanni, C. Müll. 90
longirostre, Schwægr. 30
longisetum, *Hook.* 68
lophoneuron, *C. Müll.* 67
lycopodioides, Sw. 123
macrodon, Hampe 68
macrodon, Hook. 93
macrophyllum, Kunze 80
macropus, *Kunze* 64
Martianum, Hornsch. 111
megalophyllum, Raddi 112
Mittenii, *C. Müll.* 65
Œrstedianum, C. Müll. 81
palmatum, Sw. 599
parvulum, Hornsch. 30
pauperum, Hampe 74
Perrottetii, Mont. 35
Perrottetii, C. Müll. 32
planinervium, Tayl. 40
polypodioides, Sw. 585
porphyreodictyon, C. Müll. 75
proliferum, C. Müll. 86
propinquum, Hampe 75
pumilum, *Mitt.* 64
ramulosum, *Mitt.* 64
rhabdocarpum, *Sulliv.* 67
robustum, *Hook. f.* 66
rosulatum, Hampe 79
savannarum, C. Müll. 85
sclerocarpum, Hook. et Wils. 35
speciosum, *Hook. et Wils.* 65
stenopus, C. Müll. 87
subconcolor, Hampe 86
subimmarginatum, C. Müll. 94
surinamense, C. Müll. 89
tenuifolium, Hook. f. 56
tenuirostre, Kunze 30
trachyblepharon, C. Müll. 80

Page

Dicranum
truncatum, C. Müll. 84
vaginatum, Hook. 39
validum, Hampe 67
varium, Hedw. 40
vesiculare, *Hampe* 68
vulcanicum, Brid. 28
Widgrenii, C. Müll. 88
Didymodon
calyptratus, Tayl. 148
crinalis, Tayl. 44
cylindricus, Bryol. Eur. 148
densifolius, Mitt. 52
distichus, Schwægr. 604
gracilis, Hook. 70
luteus, Tayl. 50
nervosus, Hook. et Tayl. 165
pichinchensis, Tayl. 237
splachnifolius, Hook. 141
Dimerodontium 540
mendozense, *Mitt.* 541
pellucidum, *Hook.* 540
Diphyscium, *Mohr* 622
peruvianum, *Spruce* 622
Diplostichum
longirostrum, Mont. 604
Dissodon
rotundifolius, C. Müll. 141
Distichium
capillaceum, Br. et Schimp. 41
Distichophyllum, *Dozy* 393
andicola, *Spruce* 395
auratum, *C. Müll.* 396
cubense, *Mitt.* 395
Dicksoni, *Hook.* 396
elongatum, *Mitt.* 395
flaccidum, *Hook. et Wils.* 395
palmarum, *Mitt.* 394
procumbens, *Mitt.* 396
pungens, *Mitt.* 394
pusillum, *Mitt.* 394
Drepanophyllum, *Rich.* 317
fulvum, *Rich.* 318
viride, *Mitt.* 318
Drummondia, *Hook.* 228
obtusifolia, *C. Müll.* 228

Ectropothecium, *Mitt.* 510
æruginosum, *C. Müll.* 513
amabile, *Hampe* 513
amphibolum, *Mitt.* 519
apiculatum, *Hornsch.* 512
brevisetum, *Hornsch.* 515
campanulatum, *Mitt.* 512
conostegum, *C. Müll.* 519
crassicaule, *Mitt.* 517

Page
Ectropothecium
  cubense, *C. Müll.* 514
  cupressoides, *C. Müll.* 511
  cylindricum, *Hornsch.* 516
  cyparissoides, *Hornsch.* 512
  flavoviride, *Mitt.* 518
  globitheca, *C. Müll.* 512
  gracillimum, *Hornsch.* 515
  hookeroides, *C. Müll.* 516
  lævifolium, *Mitt.* 517
  ometepense, *Sulliv.* 515
  plumulum, *Mitt.* 513
  polypterum, *Mitt.* 514
  rutilans, *Brid.* 519
  splendidulum, *Hornsch.* 516
  subdenticulatum, *C. Müll.* 518
  trinitense, *C. Müll.* 514
  truncatulum, *Mitt.* 517
  urceolatum, *Hornsch.* 515
  vesiculare, *Schwægr.* 518
Encalypta, *Schreb.* 180
  asperifolia, *Mitt.* 181
  australis, *Mitt.* 181
  coarctata, *Mitt.* 181
  mexicana, *C. Müll.* 181
  parasitica, Sw. 127
Entodon, *C. Müll.* 521
  aurescens, *Schimp.* 530
  Beyrichii, *Schwægr.* 525
  columnaris, *Schwægr.* 528
  complicatus, *C. Müll.* 525
  consanguineus, *Hampe* 524
  cupressiformis, *Hampe* 530
  densus, *Hook.* 531
  distans, *C. Müll.* 527
  erythropus, *Mitt.* 525
  gracilisetus, *Hampe* 529
  Hampeanus, *C. Müll.* 526
  incurvatus, *Hornsch.* 531
  Jamesoni, *Tayl.* 528
  longisetus, *Hook.* 523
  lutescens, Hampe 528
  macropodus, *Hedw.* 526
  myurus, Hampe 526
  neglectus, *C. Müll.* 527
  onustus, *Hampe* 523
  pallescens, *C. Müll.* 526
  pallidisetus, *Mitt.* 526
  polycarpus, Schimp. 528
  propinquus, *Hampe* 530
  ramosissimus, *Hampe* 529
  Regnellianus, *C. Müll.* 523
  Schwægricheni, *C. Müll.* 528
  serrulatus, *Mitt.* 632
  squarrosus, *C. Müll.* 524
  teres, *C. Müll.* 524

Page
Entodon
  truncatus, *C. Müll.* 528
  virens, *Hook. et Wils.* 527
Entosthodon, *Schwægr.* 243
  acidotus, *Tayl.* 245
  andicola, *Mitt.* 244
  Bonplandii, *Brid.* 245
  chiloensis, *Mitt.* 245
  clavellatus, *Mitt.* 244
  eurystomus, *Mitt.* 245
  Lindigii, *Hampe* 243
  longicollis, *Mitt.* 244
  lutescens, *Hampe* 243
  Mathewsii, *Hook.* 245
  obtusifolius, *Mitt.* 244
  pseudomarginatus, *Hampe* 243
  undulatus, *Hampe* 243
Ephemerum, *Hampe* 239
  æquinoctiale, *Spruce* 239
Epipterygium, *Lindl.* 318
  immarginatum, *Mitt.* 319
  Wrightii, *Sulliv.* 318
Eriodon
  conostomum, Mont. 550
  radicalis, Spruce 550
Eriopus, *Brid.* 391
  apiculatus, *Hook. et Wils.* 393
  mniadelphus, *Spruce* 392
  nutans, *Hampe* 392
  setigerus, *Mitt.* 392
Erpodieæ 18, 403
Erpodium, *Brid.* 403
  brasiliense, C. Müll. 403
  coronatum, *Hook. et Wils.* 403
  domingense, *Brid.* 403
Eucamptodon, *Mont.* 69
  perichætialis, *Mont.* 69
  piliferus, *Mitt.* 69
Eurynchium
  striatellum, Schimp. 557
Eustichia, *Brid.* 603
  Jamesoni, C. Müll. 604
  longirostris, *Brid.* 603
  norvegica, C. Müll. 580

Fabronia, *Raddi* 538
  andina, *Mitt.* 538
  cubensis, Sulliv. 540
  Gardneriana, C. Müll. 539
  Jamesoni, *Tayl.* 538
  Lindigiana, *Hampe* 538
  longidens, *Duby* 539
  macroblepharis, *Schwægr.* 539
  nivalis, *Mont.* 539
  polycarpa, *Hook.* 539
Fissidens, *Hedw.* 580

Page
Fissidens
  amœnus, *C. Müll.* 589
  angustelimbatus, *Mitt.* 601
  angustifolius, *Sulliv.* 598
  asplenioides, *Sw.* 591
  asterodontium, *C. Müll.* 587
  Berterii, *Mont.* 584
  brachypus, *Mitt.* 590
  brevifolius, *Hook. et Wils.* 596
  campylopus, *Mont.* 592
  circinatus, *Schimp.* 586
  crispus, *Mont.* 600
  cuspidulatus, Sulliv. 595
  cylindraceus, *Mitt.* 590
  densiretis, *Sulliv.* 595
  dimorphus, *C. Müll.* 596
  diplodus, *Mitt.* 589
  dissitifolius, *Sulliv.* 599
  elegans, *Brid.* 595
  flabellatus, Hornsch. 591
  flavinervis, *Mitt.* 592
  flexinervis, *Mitt.* 588
  Gardneri, *Mitt.* 593
  genunervis, *C. Müll.* 592
  guianensis, *Mont.* 587
  Hornschuchii, *Mont.* 593
  hydropogon, *Spruce* 585
  immersus, *Mitt.* 584
  inæqualis, *Mitt.* 589
  insignis, *Schimp.* 586
  intermedius, *C. Müll.* 594
  intromarginatus, *Hampe* 594
  Kegelianus, *C. Müll.* 598
  Lechleri, Hampe 602
  leptophyllus, *Mont.* 594
  Lindbergii, *Mitt.* 602
  Lindigii, *Hampe* 601
  longifolius, *Brid.* 599
  macrophyllus, *Mitt.* 600
  maschalanthus, *Mont.* 591
  mexicanus, *Schimp.* 584
  minutulus, Sulliv. 599, 601
  mollis, *Mitt.* 600
  monandrus, *Mitt.* 598
  Moritzianus, *C. Müll.* 594
  muriculatus, *Spruce* 593
  Œrstedianus, *C. Müll.* 586
  pallidinervis, *Mitt.* 592
  palmatus, *Sw.* 599
  parvus, *Dill.* 584
  pellucidus, *Hornsch.* 588
  petrophilus, *Sulliv.* 587
  polypodioides, *Sw.* 585
  prionoides, *Mont.* 590
  psathyrocheilon, *Schlph.* 597
  pseudobryoides, *Schlph.* 597

Page
Fissidens
  radicans, *Mont.* 587
  repandus, *Wils.* 601
  reticulosus, *C. Müll.* 603
  rigidulus, *Hook. et Wils.* 602
  rufulus, Sulliv. 588
  scalaris, *Mitt.* 596
  scariosus, *Mitt.* 599
  semicompletus, *Hedw.* 583
  semimarginatus, *C. Müll.* 593
  serrulatus, Hornsch. 594
  similiretis, *Sulliv.* 590
  sphagnifolius, *Sulliv.* 591
  Splitgerberianus, *Dozy et Molk.* 595
  stissotheca, *Hampe* 585
  subcrenatus, *Schimp.* 588
  subulatus, *Mitt.* 589
  tenuifolius, *Mitt.* 596
  tequendamensis, *Mitt.* 601
  tortilis, *Hampe* 597
  turbinatus, Tayl. 591
  Weirii, *Mitt.* 602
Fontinalis, *Dill.* 449
  bogotensis, *Hampe* 449
  filicina, Sw. 425
  gymnostoma, Br. et Schimp. 449
  parva, Dill. 584
Funaria, *Schreb.* 246
  calvescens, *Schwægr.* 247
  erectiuscula, *Mitt.* 247
  hygrometrica, *Hedw.* 246
  Jamesoni, *Tayl.* 247
  lævis, *Mitt.* 248
  laxissima, *C. Müll.* 248
  megalostoma, *Mitt.* 246
  obtusata, *Schimp.* 248
  suberecta, *Mitt.* 248
Funarieæ 15, 239

Glyphocarpa
  lævisphæra, Tayl. 268
  Taylori, Hook. 268
Glyphomitrium, *Brid.* 105
  chimborazense, *Spruce* 107
  fernandesianum, *Mitt.* 107
  lepidomitrium, *Schimp.* 106
  ligulatum, *Mitt.* 107
  Lindigii, *Hampe* 105
  lobuliferum, *Mitt.* 106
  rugosum, *Mitt.* 105
  Sellowianum, *C. Müll.* 106
  serratum, *Schimp.* 106
Grimmia, *Ehrh.* 95
  amblyophylla, *C. Müll.* 98
  andina, *Mitt.* 97
  angustifolia, *Mitt.* 97

Page

- Grimmia
  - apocarpa, *Linn.* 98
  - *atrovirens*, Sm. 165
  - consobrina, *Kunze* 100
  - contermina, *C. Müll.* 103
  - convoluta, *Mont.* 103
  - crispipila, *Tayl.* 104
  - cucullatifolia, *Hampe* 102
  - cylindrica, *C. Müll.* 103
  - didyma, *Mont.* 102
  - *fontinaloides*, Hook. 449
  - fuliginosa, *Schimp.* 99
  - fusco-lutea, *Hook.* 100
  - Giberti, *Mitt.* 100
  - humilis, *Mitt.* 100
  - imberbis, *Kunze* 99
  - *julacea*, Hornsch. 415
  - lævigata, *Mitt.* 104
  - lanuginosa, *Dill.* 104
  - laxa, *C. Müll.* 99
  - *leucophæa*, Hornsch. 98
  - longirostris, *Hook.* 101
  - nigrita, *C. Müll.* 103
  - ovata, *Web. et Mohr* 101
  - pachyloma, *Mont.* 97
  - patagonica, *Mitt.* 96
  - *peruviana*, Sulliv. 101
  - reflexidens, *C. Müll.* 101
  - rupestris, *Hook. f.* 102
  - saxatilis, *Mitt.* 97
  - Schiedeana, *C. Müll.* 98
  - streptophylla, *Sulliv.* 98
  - *symphyodonta*, C. Müll. 103
- Grimmieæ 13, 95
- *Guembelia*
  - *bogotensis*, Hampe 101
  - *laxa*, C. Müll. 99
- *Gymnostomum*
  - *acidotum*, Tayl. 245
  - *Barbula*, Schwægr. 136
  - *blandum*, Hook. 138
  - *calcareum*, Nees 134
  - *Jamesoni*, Arn. 132
  - *Jamesoni*, Tayl. 168
  - *julaceum*, Hook. 27
  - *laxifolium*, Kunze 136
  - *longirostre*, Kunze 134
  - *marginatum*, Kunze 132
  - *Menziesii*, Hook. 274
  - *micaceum*, Schlecht. 131
  - *pusillum*, Hedw. 165
  - *rupestre*, Sulliv. 134
  - *Tortula*, Schwægr. 135

- *Haplodontium*
  - *Jamesoni*, Hampe 325

Page

- *Harpophyllum*
  - *aureum*, Spruce 348
- *Harrisonia*
  - *rhabdocarpa*, Hampe 405
- Hedwigia, *Ehrh.* 404
  - ciliata, *Ehrh.* 404
  - cirrhifolia, *Wils.* 406
  - decalvata, *Mitt.* 408
  - Humboldtii, *Hook.* 407
  - imberbis, *Sm.* 405
  - Liebmanniana, *Schimp.* 407
  - nivalis, *C. Müll.* 405
  - orbiculata, *Mitt.* 407
  - plicata, *Mitt.* 406
  - secunda, *Hook.* 406
  - squarrulosa, *Hampe* 407
  - subrevoluta, *C. Müll.* 405
- *Helicodontium*
  - *tarapotense*, Spruce 548
  - *tenuirostre*, Schwægr. 547
- Helicophyllum, *Brid.* 331
  - torquatum, *Hook.* 331
- Heterocladium, *Schimp.* 508
  - dimorphum, *Brid.* 508
- Holomitrium, *Brid.* 56
  - antennatum, *Mitt.* 59
  - arboreum, *Mitt.* 58
  - calycinum, *Sw.* 60
  - *crispulum*, Mart. 59
  - *crispulum*, Mont. 57
  - flexuosum, *Mitt.* 57
  - longifolium, *Hampe* 58
  - marginatum, *Mitt.* 57
  - Moritzianum, *Hampe* 58
  - Olfersianum, *Hornsch.* 61
  - proliferum, *Mitt.* 61
  - pulchellum, *Mitt.* 60
  - Sellowii, *Schwægr.* 59
  - serratum, *Schimp.* 60
  - tortuosum, *Mitt.* 58
  - *tortuosum*, Hornsch. 59
  - undulatum, *Mitt.* 59
  - Wrightii, *Sulliv.* 61
- Homalia, *Brid.* 458
  - glabella, *Sw.* 458
- Hookeria, *Sm.* 334
  - acicularis, *Mitt.* 354
  - acuminata, *Mitt.* 357
  - acutifolia, *Schwægr.* 338
  - *adnata*, Sulliv. 395
  - adunca, *Mitt.* 362
  - æruginosa, *Mitt.* 346
  - *affinis*, C. Müll. 381
  - albata, *C. Müll.* 343
  - albicans, *Sw.* 343
  - *ancistroides*, Mont. 437

Page
Hookeria
- antillarum, *Mitt.* 343
- aspera, *Mitt.* 352
- aurea, *Lam.* 348
- *bogotensis,* Hampe 391
- bombonasica, *Mitt.* 342
- cæspitosa, *Mitt.* 347
- callicostata, *C. Müll.* 353
- capillata, *Mitt.* 341
- castanea, *Mitt.* 341
- cavifolia, *Mitt.* 361
- chimborazensis, *Mitt.* 346
- *chloroneuron,* Tayl. 385
- *convallium,* C. Müll. 377
- crenata, *Mitt.* 351
- crispa, *C. Müll.* 354
- cruceana, *Duby* 349
- Cruegeriana, *Sond.* 355
- *cupressiformis,* C. Müll. 365
- curvifolia, *Mitt.* 362
- cuspidata, *C. Müll.* 344
- cuspidata, *Mitt.* 355
- cymbifolia, *Hampe* 364
- denticulata, *Mitt.* 347
- depressa, *Sw.* 349
- *Dicksoni,* Hook. 396
- diffusa, *Wils.* 354
- diversifolia, *Mitt.* 364
- *erectiuscula,* Tayl. 372
- exigua, *Mitt.* 358
- falcata, *Hook.* 361
- filiformis, *Hook.* 365
- fissidentoides, *Hook.* 357
- *flaccida,* Hook. et Wils. 395
- gemmacea, *Mitt.* 340
- *gigantea,* Hornsch. 356
- glandulifera, *Hampe* 361
- gracilis, *Mitt.* 360
- *Grevilleana,* Tayl. 381
- guadelupensis, *Brid.* 359
- hispidula, *Mitt.* 339
- humilis, *Mitt.* 342
- hypnacea, *C. Müll.* 363
- *hypnoides,* Hornsch. 516
- incurva, *Hook. et Grev.* 350
- Jagiana, *C. Müll.* 343
- Langsdorffii, *Hook.* 356
- latifolia, *Mitt.* 345
- *latifolia,* C. Müll. 380
- leptorhyncha, *Hook. et Grev.* 365
- *leskeoides,* Hook. 558
- Lindigiana, *Hampe* 340
- longipedunculata, *C. Müll.* 352
- marginata, *Hook. et Wils.* 341
- Martiana, *Hornsch.* 349
- *membranacea,* C. Müll. 369

Page
Hookeria
- Merkelii, *Hornsch.* 349
- *Merkelii,* Sulliv. 352
- microcarpa, *Hornsch.* 350
- nitens, *Hornsch.* 357
- nitida, *Mitt.* 348
- nivalis, *C. Müll.* 346
- *obscura,* Mont. 398
- obscurifolia, *Mitt.* 342
- Œrstediana, *C. Müll.* 351
- Olfersiana, *Hornsch.* 344
- ovata, *Mitt.* 339
- pallens, *Mitt.* 345
- pallescens, *Hook.* 363
- pallida, *Hornsch.* 351
- pandurifolia, *Mitt.* 345
- Parkeriana, *Hook.* 356
- *parvifolia,* Tayl. 575
- *Patrisiæ,* Brid. 369
- pellucida, *Mitt.* 353
- pendula, *Hook.* 365
- *Perrini,* Spreng. 373
- pilifera, *Hook. et Wils.* 364
- *Pœppigiana,* Hampe 518
- *prælonga,* Arn. 518
- *radiculosa,* Hook. 542
- repens, *Hook. et Grev.* 359
- *rigida,* Arn. 373
- riparia, *Mitt.* 345
- rivularis, *Mitt.* 353
- rorida, *Hampe* 344
- rubriseta, *Mitt.* 341
- rufescens, *Mitt.* 352
- rugulosa, *Mitt.* 358
- saxatilis, *Mitt.* 352
- scabrella, *Mitt.* 362
- scabriseta, *Hook.* 353
- scabriuscula, *C. Müll.* 351
- *Sellowii,* Hornsch. 507
- setosa, *Mitt.* 339
- shillicaiensis, *Spruce* 344
- sinuata, *Mitt.* 358
- *speciosissima,* Schwægr. 378
- *Splitgerberi,* Mont. 370
- *strumosa,* Hornsch. 502
- subfalcata, *Hampe* 360
- sublimbata, *C. Müll.* 343
- subsecunda, *Mitt.* 358
- tenella, *Mitt.* 342
- tenuicuspis, *Mitt.* 347
- tenuifolia, *Mitt.* 359
- tenuis, *Mitt.* 355
- terrestris, *Mitt.* 356
- undata, *Hedw.* 554
- *undata,* C. Müll. 354
- vaga, *Mitt.* 360

Page

Hookeria
- variabilis, *Hornsch.* 359
- varians, *Sulliv.* 346
- *varians*, var. 343
- velutina, *Hampe* 363
- viridissima, *Mitt.* 362
- viridula, *Mitt.* 345
- Wrightii, *Sulliv.* 365

Hookerieæ 18, 334

Hydropogon, *Brid.* 449
- fontinaloides, *Hook.* 449
- gymnostomum, *Br. et Schimp.* 449

Hylomnium
- *frondiforme*, Spruce 418

Hymenodon, *Hook. f. et Wils.* 326
- æruginosus, *Hook. f. et Wils.* 326
- *ovatus*, C. Müll. 317

Hyophila
- *caripensis*, Hampe 136
- *Leprieurii*, Mont. 137
- *Lindigii*, Hampe 137

Hypneæ 22, 538

Hypnodendron, *C. Müll.* 566
- microstictum, *Mitt.* 566

Hypnum, *Dill.* 545
- acanthophyllum, *Mont.* 556
- *aciculare*, Brid. 536
- *acistrostegium*, Sulliv. 488
- *acrophyllum*, Hampe 501
- *æruginosum*, C. Müll. 513
- *affine*, Hook. 533
- *albicans*, Sw. 343
- *aluminicola*, C. Müll. 534
- *amœnum*, Hedw. 487
- *andicola*, Hook. 506
- Andrieuxii, *Mont.* 560
- *apiculatum*, Hornsch. 512
- *appressum*, Hornsch. 443
- aquaticum, *Hampe* 555
- *arguteserratum*, C. Müll. 507
- *asperulum*, Hampe 565
- *aureum*, Lam. 348
- *auriculatum*, Mont. 531
- *auronitens*, Hornsch. 545
- Berteroanum, *Mont.* 551
- Beskeanum, *C. Müll.* 554
- Bonplandii, *Hook.* 558
- *brachyneuron*, C. Müll. 498
- *brachypodium*, C. Müll. 557
- *brevipes*, C. Müll. 542
- *brevisetum*, Hornsch. 515
- *cæspitosum*, Hedw. 483
- *cæspitosum*, Sw. 479
- *callidum*, Mont. 489
- campylocarpum, *C. Müll.* 552
- capillare, *Sw.* 548

Hypnum
- *carguairazense*, Spruce 570
- *chlamydophyllum*, Hook. et Wils. 532
- *chlorophyllum*, Hornsch. 544
- *Chrismari*, C. Müll. 500
- chrysocladon, *Hampe* 564
- *chrysostegum*, C. Müll. 485
- *cirrhosum*, Sw. 205
- Clarazii, *Duby* 549
- *clinocarpum*, Tayl. 556
- *columbicum*, C. Müll. 567
- complanum, *Mitt.* 553
- *compositum*, Sw. 389
- *concavifolium*, Hook. et Wils. 486
- *concavum*, Hook. 496
- congestum, *Sw.* 559
- *conostegum*, C. Müll. 519
- conostomum, *Mont.* 550
- *conostomum*, Tayl. 560
- *conterminum*, C. Müll. 484
- *contortioperculatum*, C. Müll. 543
- *crassicollum*, Tayl. 496
- *crinitifolium*, Hampe 484
- *crinitifolium*, C. Müll. 501
- *cubense*, C. Müll. 514
- *cucullatifolium*, Hampe 482
- *cupressiforme*, Linn. 534
- *cupressoides*, C. Müll. 511
- *cupressoides*, Sulliv. 513
- *curvicollum*, C. Müll. 498
- *cuspidatifolium*, C. Müll. 501
- *cylindricum*, Hornsch. 516
- *cyparissoides*, Hornsch. 512
- *decumbens*, Wils. 488
- *delicatulum*, Hedw. 578
- *densum*, Sw. 418
- *denticulatum*, Linn. 520
- *depressum*, Sw. 349
- *diaphanum*, Sw. 382
- *dimorphum*, Brid. 508
- *disparifolium*, Tayl. 504
- *dissolutum*, Sulliv. 480
- *Donianum*, Sm. 520
- *duplicatum*, Schwægr. 427
- *duriusculum*, Schimp. 565
- *eccremocarpum*, C. Müll. 577
- *Ehrenbergianum*, C. Müll. 537
- *elegantulum*, Hook. 504
- *erythrodontium*, C. Müll. 505
- *esmeraldicum*, C. Müll. 496
- *estrellæ*, C. Müll. 517
- *exasperatum*, Hampe 557
- exilissimum, *Sulliv.* 549
- *expansum*, Tayl. 467
- *fasciculatum*, Sw. 468

Page

Hypnum
- *filidens*, C. Müll. 505
- *flaccidifolium*, C. Müll. 481
- *flexile*, Sw. 438
- *flexuosum*, Sulliv. 501
- *floridum*, Tayl. 461
- *fragilirostrum*, Hampe 485
- frigidum, *C. Müll.* 563
- *fulgens*, Sw. 423
- *galipense*, C. Müll. 480
- *glabellum*, Sw. 458
- *globitheca*, C. Müll. 512
- *gracillimum*, Hornsch. 515
- *guadelupense*, Brid. 359
- *guadelupense*, Spreng. 349
- *Hampeanum*, C. Müll. 486
- helvolum, *Mont.* 564
- *hexastichum*, Schwægr. 432
- *hispidulum*, Brid. 631
- *hookerioides*, C. Müll. 516
- *Hornschuchii*, Hampe 492
- huitomalconum, *C. Müll.* 552
- *implexum*, Kunze 557
- *inconspicuum*, Hornsch. 481
- inerme, *Mitt.* 554
- *Jamesoni*, Tayl. 508
- *Kegelianum*, C. Müll. 486
- lævifolium, *Mitt.* 565
- lævisetum, *Mitt.* 550
- lamasicum, *Spruce* 554
- *lancifrons*, Hampe 462
- *Langsdorffii*, Hook. 507
- *Lechleri*, C. Müll. 535
- *leptochæton*, Schwægr. 496
- leptodontium, *Mitt.* 548
- leptomerocarpum, *C. Müll.* 555
- *leucophyllum*, Hampe 499
- *leucotrichum*, Tayl. 434
- *liliputianum*, Mont. 488
- *Lindigii*, Hampe 487
- *lithophilum*, Hook. f. 481
- *livens*, Schwægr. 433
- *lonchophyllum*, Mont. 473
- *longirostratum*, C. Müll. 490
- *longissimum*, Raddi 436
- *loriforme*, Hampe 508
- *loxense*, Hook. 479
- *lucidulum*, Hook. f. 521
- luteolum, *Mitt.* 558
- *macrodontium*, Hornsch. 507
- *macrorhynchum*, Hornsch. 487
- *megapolitanum*, Hook. f. 552
- *microcarpum*, Hornsch. 492
- *microcladum*, Tayl. 495
- minutum, *Mitt.* 549
- Mittenii, *Spruce* 551

Page

Hypnum
- *mnioides*, Hook. 327
- *Montagnei*, Schimp. 518
- *neckeræforme*, Hampe 464
- *nigrescens*, Sw. 441
- *nigricans*, Hook. 433
- *novogranatense*, Hampe 520
- obliquerostratum, *Mitt.* 548
- *obliquifolium*, C. Müll. 480
- occidentale, *Hampe* 559
- *Olfersii*, Hornsch. 489
- *orthocarpum*, C. Müll. 521
- *oxypoma*, Schwægr. 505
- *pallidum*, Hook. 506
- *palmatum*, Sw. 599
- pandurifolium, *C. Müll.* 468
- *papillosum*, Hornsch. 492
- paradoxum, *Hook. f.* 563
- *patens*, Hook. 445
- *patulum*, Sw. 444
- *pauperum*, C. Müll. 576
- pendulum, *Dill.* 555
- *perspicuum*, Hampe 504
- *peruvianum*, Mont. 542
- *phyllogonium*, C. Müll. 532
- *piniforme*, C. Müll. 465
- *planum*, Brid. 496
- plumosum, *Linn.* 565
- *politum*, Hook. et Wils. 531
- prælongum, *Dill.* 557
- prasophyllum, *Hampe* 560
- pseudolutescens, *Hampe* 564
- pseudopiliferum, *Hampe* 561
- *pseudoprotensum*, C. Müll. 578
- pseudorutabulum, *Hampe* 562
- *ptychocarpum*, Schwægr. 536
- *pusillum*, Hornsch. 494
- *pyrrhophyllum*, C. Müll. 483
- *radicale*, Beauv. 569
- *radicale*, Hornsch. 552
- *raphidostegum*, C. Müll. 577
- *Regnellii*, Hampe 556
- remotifolium, *Grev.* 556
- *reptans*, Sw. 506
- *reticulatum*, Hook. et Wils. 327
- *Richardi*, Schwægr. 495
- *riparium*, Linn. 570
- *ruderale*, C. Müll. 543
- *rugisetum*, Hampe 556
- rutabulum, *Linn.* 562
- *rutabulum*, Hook. et Wils. 565
- salicicola, *Spruce* 551
- *salicinum*, Spruce 551
- *saxatile*, Hook. et Wils. 543
- *scabrifolium*, Hook. f. 259
- scariosum, *Tayl.* 553

Page
Hypnum
Schiedeanum, C. Müll. 576
schistocalyx, C. Müll. 575
Schlimii, C. Müll. 491
Schreberi, Willd. 537
Schwaneckeanum, C. Müll. 490
scorpiurus, Mont. 488
scutellatum, Tayl. 330
secundifolium, C. Müll. 481
Sellowii, *Hornsch.* 552
Sellowii, C. Müll. 552
semitortum, *Mitt.* 556
serpens, Linn. 569
serrulatum, Hornsch. 552
solutum, Tayl. 557
sordidum, C. Müll. 571
sparsifolium, Hampe 465
spiniforme, Linn. 326
spiripes, C. Müll. 534
splendidulum, Hornsch. 516
Sprucei, *Mitt.* 550
stenocarpum, Hampe 478
stereopoma, *Spruce* 561
subbasilare, Hook. 327
subbrachycarpum, Hampe 484
subclavatum, Hampe 552
subdenticulatum, C. Müll. 518
suberectum, *Mitt.* 562
subflavum, Hook. et Wils. 543
subimponens, Hampe 514
subpilosum, *Hook. et Wils.* 564
subplicatum, Hampe 565
subrotundum, *Hampe* 553
subscabrum, C. Müll. 486
subsimplex, Hedw. 494
succedaneum, Hook. f. 484
tamarisci, Sw. 330
Taylori, *Mitt.* 559
tenerrimum, *C. Müll.* 558
tenerum, Sw. 499
tenuifolium, *Hedw.* 552
tenuinerve, *Mitt.* 549
tenuirostre, *Hook.* 547
tequendamense, Hampe 491
ternstrœmiæ, Brid. 434
tetragonum, Sw. 431
thelipodium, C. Müll. 478
thelistegum, C. Müll. 503
Thieleanum, C. Müll. 465
tocaremæ, *Hampe* 554
tomentosum, Hedw. 333
torquatum, Hedw. 223
tovariense, C. Müll. 480
toxarion, *Schwægr.* 557
trinitense, C. Müll. 514
truncatulum, C. Müll. 517

Page
Hypnum
ulicon, *Tayl.* 555
uncinatum, Hedw. 570
urceolatum, Hornsch. 515
valdiviæ, *C. Müll.* 467
vesiculare, Schwægr. 518
viscidulum, Hampe 507
volvatum, Hampe 506
Wrightii 544
Hypopterygieæ 17, 328
Hypopterygium, *Brid.* 328
brasiliense, Sulliv. 330
didictyon, *C. Müll.* 330
incrassato-limbatum, *C. Müll.* 331
nivale, *C. Müll.* 331
plumarium, *Mitt.* 329
rigidulum, *Mitt.* 329
sylvaticum, *Mitt.* 329
tamarisci, *Sw.* 330
Thouini, *Mont.* 331

Illecebraria
pilacea, Hampe 27
Isopterygium, *Mitt.* 497
affusum, *Mitt.* 499
brachyneuron, *C. Müll.* 498
Chrismari, *C. Müll.* 499
curvicollum, *C. Müll.* 498
leucophyllum, *Hampe* 499
planissimum, *Mitt.* 498
tenerifolium, *Mitt.* 499
tenerum, *Sw.* 499
Isothecium
Andrieuxii, Mont. 561
intermedium, Thiele 465
trichophorum, Mont. 435
Thunbergii, *Brid.* 432

Lepidopilum, *Brid.* 366
acutum, *Mitt.* 379
amplirete, *Sulliv.* 382
anceps, *Mitt.* 378
angustifrons, *Hampe* 384
antillarum, *Mitt.* 377
arcuatum, *Mitt.* 374
armatum, *Mitt.* 380
aurifolium, *Mitt.* 371
brevifolium, *Mitt.* 385
brevipes, *Mitt.* 376
calvum, *Mitt.* 377
caviusculum, *Mitt.* 383
chloroneurum, *Tayl.* 385
convallium, *Brid.* 377
cubense, *Sulliv.* 384
curvifolium, *Mitt.* 374

Page

- Lepidopilum
  - cuspidans, *Mitt.* 378
  - Daltoniaceum, *Hampe* 371
  - Deppeanum, *C. Müll.* 383
  - diaphanum, *Sw.* 382
  - divaricatum, *Dozy et Molk.* 379
  - epiphyllum, *Mitt.* 370
  - erectiusculum, *Tayl.* 372
  - flexifolium, *C. Müll.* 375
  - frondosum, *Mitt.* 381
  - fuscidulum, *Mitt.* 372
  - gracile, *Mitt.* 377
  - Grevilleanum, *Tayl.* 381
  - imbricatifolium, *Mitt.* 372
  - inflexum, *Mitt.* 375
  - integerrimum, *Mitt.* 382
  - intermedium, *C. Müll.* 376
  - latifolium, *C. Müll.* 380
  - longifolium, *Hampe* 384
  - membranaceum, *C. Müll.* 369
  - Muelleri, *Hampe* 379
  - nudum, *Mitt.* 376
  - oblongifolium, *Mitt.* 383
  - Patrisiæ, *Brid.* 369
  - pectinatum, *Mitt.* 381
  - phyllorhizon, *Mitt.* 385
  - polytrichoides, *Hedw.* 373
  - pumilum, *Mitt.* 381
  - radicale, *Mitt.* 378
  - robustum, *Mitt.* 386
  - semilæve, *Mitt.* 385
  - splendidissimum, *Mont.* 378
  - Splitgerberi, *Mont.* 370
  - Sprucei, *Mitt.* 370
  - stillicidiorum, *Mitt.* 373
  - subenerve, *Brid.* 383
  - subfuscum, *Mitt.* 376
  - subulatum, *Mitt.* 380
  - surinamense, *C. Müll.* 373
  - tenuifolium, *Mitt.* 382
  - tortifolium, *Mitt.* 374
  - venustum, *Tayl.* 371
- Leptangium, *Mont.* 239
  - imbricatum, *Mitt.* 240
- *Leptochlæna*
  - *chilensis*, Mont. 324
  - *graciliseta*, Hampe 324
- Leptodon, *Brid.* 450
  - Smithii, *Dicks.* 450
- Leptodontium 49
  - acutifolium, *Mitt.* 51
  - brasiliense, *Mitt.* 52
  - brevisetum, *Mitt.* 50
  - cirrhifolium, *Mitt.* 52
  - densifolium, *Mitt.* 52

Page

- Leptodontium
  - filescens, *Hampe* 50
  - longicaule, *Mitt.* 52
  - luteum, *Tayl.* 50
  - sulphureum, *C. Müll.* 51
  - ulocalyx, *C. Müll.* 51
- *Leptohymenium*
  - *consanguineum*, Hampe 524
  - *cylindricaule*, Hampe 523
- Leptostomum, *Br.* 274
  - Menziesii, *Hook.* 274
  - *pusillum*, Hook. & Wils. 321
  - splachnoides, *Hook. et Arn.* 274
  - *squarrosum*, Tayl. 237
- *Leptotheca*
  - *speciosa*, Hook. et Wils. 283
- *Leptotrichum*
  - *affine*, C. Müll. 42
  - *australe*, Mitt. 42
  - *crinale*, Mitt. 44
  - *gracile*, Mitt. 43
  - *Hookeri*, C. Müll. 42
  - *hyalinum*, Mitt. 43
  - *Montagnei*, C. Müll. 44
  - *neurophyllum*, Spr. 43
  - *rufescens*, Hampe 44
- Lepyrodon, Hampe 421
  - lagurus, *Hook.* 421
  - parvulus, *Mitt.* 422
  - tomentosus, *Hook.* 422
  - trichophyllus, *Sw.* 422
- Leskea, *Hedw.* 566
  - *aciculata*, Tayl. 448
  - *affinis*, Hornsch. 483
  - *albicans*, Sw. 343
  - *ambigua*, Schwægr. 492
  - *angustata*, Tayl. 464
  - *Bonplandii*, Hook. 558
  - *capillaris*, Sw. 548
  - *circinalis*, Hampe 486
  - *congesta*, Brid. 559
  - *densa*, Hook 431
  - *depressa*, Hedw. 349
  - *distans*, Mont. 536
  - *fulva*, Hornsch. 482
  - *Gayana*, Mont. 536
  - *glabella*, Hedw. 458
  - gracillima, *Tayl.* 567
  - *gymnopoda*, Tayl. 465
  - *Hedwegii*, Wils. 484
  - *helvola*, Mont. 564
  - *imponderosa*, Tayl. 442
  - *involvens*, Hedw. 575
  - *Kegeliana*, C. Müll. 486
  - *leptoclada*, Tayl. 573

Page

- **Leskea**
  - *leucostega*, Brid. 542
  - *microcarpa*, Sw. 493
  - microphylla, *Sw.* 568
  - *mollis*, Hedw. 439
  - *nitida*, Hook. et Wils. 535
  - *pallida*, Schwægr. 506
  - *patens*, Hornsch. 478
  - *pellucida*, Hook. 540
  - plumaria, *Mitt.* 568
  - *pungens*, Sw. 477
  - *pygmæa*, Tayl. 499
  - *rutilans*, Brid. 519
  - *sciuroides*, Hornsch. 527
  - *seminervis*, Kunze 542
  - *striata*, Schwægr. 348
  - *superba*, Tayl. 459
  - *tamarisci*, Hedw. 330
  - *tenuirostris*, Hook. 547
  - teretiuscula, *Mitt.* 567
  - *undata*, Hedw. 354
- Leucobryeæ 13, 107
- Leucobryum, *Hampe* 110
  - crispum, *C. Müll.* 111
  - *giganteum*, C. Müll. 112
  - glaucum, *Linn.* 111
  - longifolium, *Hampe* 112
  - Martianum, *Hornsch.* 111
  - megalophyllum, *Raddi* 112
  - *robustum*, Sulliv. 112
  - sediforme, *C. Müll.* 111
  - *tenuifolium*, Sulliv. 112
- Leucodon, *Schwægr.* 408
  - *Bartramia*, Hook. 269
  - coronatus, *Mont.* 409
  - cryptotheca, *Hampe* 408
  - curvirostris, *Hampe* 409
  - domingensis, *Spreng.* 409
  - geniculatus, *Mitt.* 409
  - *gracilis*, Hampe 535
  - *lagurus*, Hook. 421
  - *scabrisetus*, Tayl. 562
  - *tomentosus*, Hook. 422
- Leucoloma, *Brid.* 91
  - mollissimum, *Mitt.* 91
  - *serrulatum*, Brid. 93
- Leucomium, *Mitt.* 500
  - acrophyllum, *Hampe* 501
  - attenuatum, *Mitt.* 503
  - compressum, *Mitt.* 502
  - contractile, *Mitt.* 502
  - crinitifolium, *C. Müll.* 501
  - cuspidatifolium, *C. Müll.* 501
  - flexuosum, *Sulliv.* 501
  - lignicola, *Spruce* 503

Page

- Leucomium
  - strumosum, *Hornsch.* 502
- *Leucophanes*
  - *Gardnerianum*, C. Müll. 108

- Macromitrium, *Brid.* 194
  - apiculatum, *Hook.* 203
  - argutum, *Hampe* 209
  - attenuatum, *Hampe* 212
  - aureum, *C. Müll.* 213
  - brachycarpum, *Mitt.* 204
  - brasiliense, *Mitt.* 197
  - brevipes, *C. Müll.* 202
  - chimborazense, *Spruce* 218
  - cirrhosum, *Sw.* 205
  - *clavellatum*, Kunze 229
  - contextum, *Hampe* 207
  - crenulatum, *Hampe* 213
  - crispatulum, *Mitt.* 210
  - cylindricum, *Mitt.* 210
  - didymodon, *Schwægr.* 201
  - divaricatum, *Mitt.* 217
  - dubium, *Schimp.* 207
  - filicaule, *C. Müll.* 199
  - filiforme, *Hook. et Grev.* 197
  - flexuosum, *Mitt.* 208
  - fragile, *Mitt.* 218
  - frigidum, *C. Müll.* 198
  - frondosum, *Mitt.* 217
  - galipense, *C. Müll.* 213
  - goniopodium, *Mitt.* 198
  - guatemalense, *C. Müll.* 214
  - hymenostomum, *Mont.* 204
  - insularum, *Mitt.* 200
  - jamaicense, *Mitt.* 209
  - lævifolium, *Mitt.* 203
  - lævisetum, *Mitt.* 214
  - Leprieurii, *Mont.* 200
  - liberum, *Mitt.* 214
  - longifolium, *Hook.* 210
  - longirostre, *Hook.* 212
  - macrothele, *Hampe* 212
  - mexicanum, *Mitt.* 198
  - microcarpum, *C. Müll.* 202
  - microtheca, *Mitt.* 208
  - mucronifolium, *Hook. et Grev.* 202
  - negrense, *Mitt.* 208
  - nitidum, *Hook. et Wils.* 199
  - oblongum, *Tayl.* 211
  - obtusum, *Mitt.* 201
  - Osculatianum, *De Not.* 216
  - ovale, *Mitt.* 209
  - paraphysatum, *Mitt.* 198
  - pellucidum, *Mitt.* 203
  - penicillatum, *Mitt.* 217

Page

Macromitrium
  pentastichum, *Mitt.* 209
  perichætiale, *Hook. et Grev.* 216
  Pœppigii, *Duby* 216
  prælongum, *Mitt.* 207
  proliferum, *Mitt.* 217
  punctatum, *Raddi* 211
  pyriforme, *C. Müll.* 206
  quinquefarium, *Hornsch.* 218
  ramosissimum, *Mitt.* 205
  reflexifolium, *Mitt.* 211
  Regnelii, *Hampe* 210
  rhabdocarpum, *Mitt.* 199
  Richardi, *Schwægr.* 200
  saxatile, *Mitt.* 200
  scabrisetum, Wils. 210
  scoparium, *Mitt.* 206
  serrulatum, *Mitt.* 215
  stellulatum, *Brid.* 204
  stenophyllum, *Mitt.* 215
  stratosum, *Mitt.* 199
  sublæve, *Mitt.* 208
  subscabrum, *Mitt.* 215
  Sumichrasti, *Duby* 203
  Swainsonii, *Hook.* 205
  Tocaremæ, *Hampe* 206
  tomentosum, *Hornsch.* 204
  trachypodium, *Mitt.* 213
  Trianæ, *C. Müll.* 214
  trichophyllum, *Mitt.* 207
  truncatum, C. Müll. 217
  tumidulum, *Mitt.* 201
  ulophyllum, *Mitt.* 206
  undulatum, Hampe 205
  Wagnerianum, *C. Müll.* 202
Meesia
  vagans, C. Müll. 262
Meiothecium, *Mitt.* 469
  andinum, *Mitt.* 470
  aptychoides, *Schlieph.* 471
  Boryanum, *Mont.* 469
  lageniferum, *Mitt.* 470
  negrense, *Spruce* 471
  revolubile, *Mitt.* 471
  sulcatum, *Mitt.* 470
  tenerum, *Mitt.* 470
Mesonodon
  onustus, Hampe 523
Meteorium, *Brid.* 427
  aciculatum, *Tayl.* 448
  ambiguum, *Hornsch.* 446
  appressum, *Hornsch.* 446
  auronitens, *Hornsch.* 447
  brasiliense, Sulliv. 436
  brevisetum, *Mitt.* 447

Page

Meteorium
  capillare, *C. Müll.* 442
  consimile, *Hampe* 447
  crinitum, *Sulliv.* 431
  cubense, *Mitt.* 435
  debile, *Wils.* 448
  denticulatum, *C. Müll.* 443
  Deppei, *Hornsch.* 441
  elongatum, *Mitt.* 430
  erinaceum, Spruce 431
  excavatum, *Mitt.* 430
  filiferum, *C. Müll.* 434
  flaccidum, *Mitt.* 443
  flexile, *Sw.* 438
  funale, *Wils.* 442
  fuscoviride, *Hampe* 438
  genuflexum, *C. Müll.* 436
  guianense, *Mont.* 430
  hexastichum, *Schwægr.* 432
  illecebrum, *C. Müll.* 437
  implanatum, *Mitt.* 445
  imponderosum, *Tayl.* 442
  inordinatum, *Mitt.* 435
  lævifolium, *Mitt.* 441
  leucotrichum, *Tayl.* 434
  livens, *Schwægr.* 433
  longebarbatum, *Hampe* 436
  longissimum, *Raddi* 436
  macranthum, Dozy et Molk. 434
  macrocarpum, *Spruce* 437
  mexicanum, *Mitt.* 433
  molle, *Hedw.* 439
  nigrescens, *Sw.* 441
  nigricans, *Hook.* 433
  nitidum, Sulliv. 436
  Œrstedianum, *C. Müll.* 441
  onustum, *Spruce* 445
  orbifolium, *Mitt.* 440
  pachygaster, *C. Müll.* 432
  patens, *Hook.* 245
  patulum, *Sw.* 444
  penicillatum, *Dozy et Molk.* 440
  peruvianum, *Mitt.* 433
  quinquefarium, *C. Müll.* 431
  quitense, *Mitt.* 439
  recurvifolium, *Hornsch.* 444
  remotifolium, *Hornsch.* 447
  rigidum, *C. Müll.* 439
  rotundifolium, *Mitt.* 437
  sinuatum, *C. Müll.* 446
  stramineum, *C. Müll.* 446
  tenuissimum, *Hook.* 447
  teres, *Mitt.* 438
  Ternstrœmiæ, *Brid.* 434
  tetragonum, *Sw.* 431

Page
Meteorium
Thunbergii, *Brid.* 432
tortipilis, *C. Müll.* 435
tovariense, *C. Müll.* 444
trichophorum, Sulliv. 435
turgescens, *C. Müll.* 440
versicolor, *C. Müll.* 432
viride, *C. Müll.* 433
viridulum, *Mitt.* 443
Widgrenianum, *Angst.* 446
Microthamnium, *Mitt.* 503
andicola, *Hook.* 506
breviusculum, *Mitt.* 506
elegantulum, *Hook.* 504
Jamesoni, *Tayl.* 508
Langsdorfii, *Hook.* 507
loriforme, *Hampe* 508
macrodontium, *Hornsch.* 507
oxypoma, *Schwægr.* 505
oxystegum, *Spruce* 505
reptans, *Sw.* 506
Sellowii, *Hornsch.* 507
substriatum, *Mitt.* 504
thelistegum, *C. Müll.* 504
viscidulum, *Hampe* 507
Mielichhoferia, *Hornsch.* 320
andina, *Sulliv.* 323
argentifolia, *Mitt.* 325
bogotensis, *Hampe* 323
brevicaulis, *Hornsch.* 322
campylocarpa, *Hook. et Arn.* 322
campylotheca, C. Müll. 322
chilensis, *Mont.* 324
clavellata, *Mitt.* 321
diplodonta, *Mitt.* 325
graciliseta, *Hampe* 324
Jamesoni, *Tayl.* 324
Lindigii, *Hampe* 323
longiseta, *C. Müll.* 321
megalocarpa, *Arn.* 325
microstoma, Hampe 321
nana, *Tayl.* 321
pleurogena, *Mitt.* 323
punctulata, *Mitt.* 322
pusilla, *Hook. et Wils.* 321
Schiedeana, *C. Müll.* 320
Mniadelphus
auratus, C. Müll. 396
Mnium, *Dill.* 319
Beyrichianum, Hornsch. 316
crudum, Hedw. 293
grandifolium, Tayl. 314
Lindigii, Hampe 328
punctulatum, Brid. 175
purpureum, Linn. 47

Page
Mnium
rigidum, Hornsch. 313
rostratum, *Schrad.* 319
sphæricarpum, Hedw. 261
Wrightii, Sulliv. 318

Neckera, *Hedw.* 450
affinis, Hook. 390
amazonica, *Mitt.* 452
andina, *Mitt.* 457
angustifolia, *C. Müll.* 454
appressa, C. Müll. 443
Berteroana, *Schimp.* 454
Beyrichii, Schwægr. 525
bipinnata, Schwægr. 388
bogotensis, *Mitt.* 454
Boryana, C. Müll. 469
capillaris, C. Müll. 442
chilensis, *Schimp.* 457
chlorocaulis, *C. Müll.* 454
cochlearifolia, C. Müll. 440
columnaris, Schwægr. 528
commutata, C. Müll. 472
complicata, C. Müll. 525
composita, Hedw. 389
consimilis, Hampe 447
cordata, Hornsch. 446
crinita, Sulliv. 431
Cumingii, C. Müll. 439
dendroides, Mont. 463
densa, Wils. 418
denticulata, C. Müll. 443
Deppei, Hornsch. 441
distans, C. Müll. 527
disticha, *Sw.* 451
Ehrenbergii, *C. Müll.* 453
eriodon, C. Müll. 551
filicina, Hedw. 425
filifera, C. Müll. 434
flabellata, Hampe 464
foveolata, *Mitt.* 453
fuscoviridis, Hampe 438
Hampeana, C. Müll. 526
hexasticha, C. Müll. 432
Hornschuchii, *C. Müll.* 453
hypnoides, Sw. 390
illecebra, C. Müll. 437
imbricata, Mont. 430
incurvata, Hornsch. 531
Jamesoni, *Tayl.* 456
leptocarpa, Hook. et Wils. 528
leucocaulon, C. Müll. 463
leucocolea, *Mitt.* 457
Lindigii, *Hampe* 455
livens, C. Müll. 433

Page

- Neckera
  - *longebarbata*, Hampe 436
  - *longipes*, C. Müll. 426
  - *longirostra*, Hook. 461
  - *longiseta*, Hook. 523
  - *luteovirens*, Tayl. 417
  - *macropoda*, Hedw. 526
  - mollusca, *Mitt.* 455
  - obliquifolia, *Hornsch.* 458
  - obtusifolia, *Tayl.* 456
  - *Œrstediana*, C. Müll. 441
  - Pabstiana, *C. Müll.* 452
  - *pachygaster*, C. Müll. 432
  - *pallescens*, C. Müll. 526
  - *patula*, Schwægr. 444
  - *pennata*, Hornsch. 454
  - *Pœppigiana*, C. Müll. 536
  - *pulchella*, C. Müll. 473
  - *pumila*, Hornsch. 455
  - *quinquefaria*, C. Müll. 431
  - *Regnelliana*, C. Müll. 523
  - *remotifolia*, Hornsch. 447
  - *rigida*, C. Müll. 439
  - *rufescens*, C. Müll. 435
  - scabridens, *C. Müll.* 455
  - *scabriseta*, Schwægr. 383
  - *sinuata*, C. Müll. 446
  - Spruceana, *Mitt.* 456
  - *squarrosa*, C. Müll. 524
  - *straminea*, Hornsch. 486
  - *substriata*, Hampe 463
  - tenera, *Hornsch.* 455
  - *teres*, C. Müll. 524
  - *Ternstrœmia*, C. Müll. 434
  - *tortipilis*, C. Müll. 435
  - *tovariensis*, C. Müll. 444
  - *trichophylla*, Sw. 422
  - *truncata*, C. Müll. 528
  - *turgescens*, C. Müll. 440
  - undulata, *Hedw.* 452
  - urnigera, *C. Müll.* 455
  - *versicolor*, C. Müll. 432
  - *virens*, Hook. et Wils. 527
  - *viridis*, C. Müll. 433
  - *viridula*, Mitt. 444
  - *vulpina*, Mont. 473
- Neckereæ 19, 404

- Ochrobryum, *Mitt.* 107
  - Gardnerianum, *C. Müll.* 108
  - *obtusifolium*, C. Müll. 108
- Octoblepharum, *Hedw.* 108
  - albidum, *Linn.* 109
  - ampullaceum, *Mitt.* 108
  - angustifolium, *Mitt.* 110
  - cocuiense, *Mitt.* 109

Page

- Octoblepharum
  - cylindricum, *Schimp.* 109
  - longifolium, *Mitt.* 110
  - pulvinatum, *Dozy* 109
  - stramineum, *Mitt.* 110
- *Octodiceras*
  - *Dillenii*, Brid. 584
  - *fissidentoides*, Brid. 583
- Oligotrichum, *Lam.* 605
  - canaliculatum, *Hook.* 606
  - erosum, *Hampe* 606
  - Riedelianum, *Mont.* 606
- *Oncophorus*
  - *strigosus*, Brid. 125
- Oreoweisia 52
  - ampliata, *Mitt.* 53
  - bogotensis, *Hampe* 53
  - ligularis, *Mitt.* 53
- Orthodontium, *Schwægr.* 275
  - humile, *Mont.* 275
  - *julaceum*, Schwægr. 288
  - *longisetum*, Hampe 239
  - *pellucens*, Hook. 238
  - tenellum, *Mitt.* 275
  - *tenue*, C. Müll. 275
- *Orthotheca*
  - *Berteriana*, Brid. 122
  - *circinata*, Brid. 122
  - *lycopodioides*, Brid. 123
- Orthotricheæ 14, 182
- Orthotrichum, *Hedw.* 182
  - æquatoreum, *Mitt.* 184
  - apiculatum, *Mitt.* 188
  - aristatum, *Hampe* 185
  - assimile, *C. Müll.* 185
  - brevicolle, *Mitt.* 192
  - carinatum, *Mitt.* 190
  - chilense, *Mitt.* 193
  - Darwinii, *Mitt.* 192
  - elegantulum, *Schimp.* 187
  - elongatum, *Tayl.* 187
  - eremitense, *Mitt.* 189
  - *filiforme*, Hook. et Grev. 197
  - fuegianum, *Mitt.* 192
  - fulvellum, *Mitt.* 191
  - germanum, *Mont.* 191
  - glabellum, *Mitt.* 189
  - Jamesoni, *Arn.* 224
  - laxifolium, *Wils.* 184
  - Lobbianum, *Mitt.* 192
  - *longifolium*, Hook. 210
  - *longirostre*, Hook. 212
  - *luteolum*, Hook. f. 189, 190, 191
  - macrocalycinum, *Mitt.* 190
  - magellanicum, *Mont.* 190
  - Mandoni, *Schimp.* 186

Page
Orthotrichum
pariatum, *Mitt.* 186
patulum, *Mitt.* 184
penicillatum, *Mitt.* 185
perichætiale, Hook. et Grev. 216
phyllanthum, *Brid.* 193
psychrophyllum, *Mont.* 186
punctatum, Raddi 211
pungens, *Mitt.* 184
pycnophyllum, *Schimp.* 188
recurvans, *Schimp.* 189
rubescens, *Mitt.* 188
rufescens, *Hampe* 193
rufulum, *Mitt.* 191
rugifolium, Hook. 226
striatum, *Linn.* 189
subulatum, *Mitt.* 184
Swainsoni, Hook. 205
trachymitrium, *Mitt.* 183
tuberculatum, *Mitt.* 187
undulatum, *Mitt.* 187

Phascum, *Linn.* 141
acaulon, *Linn.* 141
brevipes, Schwægr. 25
cuspidatum, Schreb. 141
Jamesoni, Tayl. 270
nervosum, Sulliv. 26
Robinsonii, Mont. 26
Philonotis
sphæricarpa, Brid. 261
Phyllogonium, *Brid.* 423
aureum, *Mitt.* 424
callichroum, Mont. 532
fulgens, *Sw.* 423
immersum, *Mitt.* 423
longirostre, Brid. 603
norvegicum, Sulliv. 580
viride, *Brid.* 424
viscosum, *Beauv.* 423
Physcomitrium, *Brid.* 240
Bonplandii, Brid. 245
cubense, *Mitt.* 240
cupuliferum, *Mitt.* 242
immersum, Sulliv. 240
Orbignianum, *Mont.* 242
serrulatum, *Mitt.* 241
spathulatum, Sulliv. 242
subsphæricum, *Schimp.* 241
Thieleanum, *Hampe* 241
turgidum, *Mitt.* 241
umbonatum, *Mitt.* 241
Pilopogon, *Brid.* 69
calycinus, *Schimp.* 70
gracilis, *Hook.* 70
longirostratus, *Mitt.* 70

Page
Pilopogon
nanus, *Hampe* 70
piliferus, *Hampe* 71
Pilotrichum, *Beauv.* 386
affine, *Hook.* 390
amazonum, *Mitt.* 387
ambiguum, C. Müll. 447
asperifolium, *Mitt.* 387
auronitens, C. Müll. 446
bipinnatum, *Schwægr.* 388
compositum, *Sw.* 389
cristatum, *Mitt.* 387
decurrens, C. Müll. 414
divaricatum, *Mitt.* 389
dubium, *Mitt.* 390
funale, Wils. 442
genuflexum, C. Müll. 436
hypnoides, *Sw.* 390
intermedium, C. Müll. 412
Lindigii, Hampe 461
lophophyllum, *Sw.* 389
mucronatum, *Mitt.* 389
nitidum, Hampe 460
procerum, *Mitt.* 390
ramosissimum, *Mitt.* 388
Schiedeanum, C. Müll. 413
stramineum, C. Müll. 446
trinitense, *Mitt.* 390
undulatum, Beauv. 453
Widgrenianum, C. Müll. 446
Plagiothecium, *Schimp.* 520
denticulatum, *Linn.* 520
Donianum, *Sm.* 520
lucidulum, *Hook. f.* 521
novo-granatense, *Hampe* 520
orthocarpum, *Hornsch.* 521
Plaubelia
tortuosa, Brid. 155
Pleuridium 26
Robinsonii, *Mont.* 26
Pleurozium, *Sulliv.* 537
Ehrenbergianum, *C. Müll.* 537
Schreberi, *Willd.* 537
Pœcilophyllum, *Mitt.* 92
albulum, *Sulliv.* 93
Crugerianum, *C. Müll.* 92
macrodon, *Hook. f.* 93
procumbens, *Mitt.* 94
serrulatum, *Brid.* 93
subimmarginatum, *C. Müll.* 94
tortellum, *Mitt.* 94
triforme, *Mitt.* 94
Vincentinum, *Mitt.* 93
Pogonatum, *Beauv.* 612
abbreviatum, *Mitt.* 615
andinum, *Hampe* 615

Page
Pogonatum
  arcuatum, *Mitt.* 617
  campylocarpum, *C. Müll.* 618
  comosum, *Schimp.* 614
  cubense, Sulliv. 618
  cucullatum, *Hampe* 613
  dendroides, Brid. 612
  Gardneri, *C. Müll.* 615
  glaciale, *Mitt.* 614
  Liebmannianum, *Schimp.* 614
  longisetum, Brid. 611
  obscuratum, *Mitt.* 618
  octangulare, *C. Müll.* 617
  oligodus, *Kunze* 613
  purpurascens, *Hampe* 616
  robustum, *Mitt.* 616
  semiangulatum, Brid. 609
  semipellucidum, *Hampe* 617
  subbifarium, *Mitt.* 618
  subcontortum, *Hampe* 616
  tortile, *Sw.* 618
  varians, *Hampe* 619
  viride, *Mitt.* 617
Pohlia
  minor, Hornsch. 321
  platyphylla, Schwægr. 295
Polytrichadelphus, *C. Müll.* 607
  aristatus, *Hampe* 609
  ciliatus, *Hook. et Wils.* 608
  croceus, Mitt. 609
  dendroides, *Hedw.* 611
  ericoides, *Hampe* 611
  flexuosus, *C. Müll.* 609
  giganteus, *Hook.* 609
  horridus, *Mitt.* 608
  longisetus, *Hook.* 611
  magellanicus, *Linn.* 608
  purpureus, *Mitt.* 610
  rubiginosus, *Mitt.* 610
  semiangulatus, *Pers.* 609
  squamosus, *Hook. et Wils.* 612
  Trianæ, *Hampe* 611
  umbrosus, *Mitt.* 610
Polytricheæ 24, 604
Polytrichum, *Linn.* 619
  andinum, Hampe 615
  angustifolium, *Mitt.* 622
  antillarum, *Rich.* 620
  appressum, Schwægr. 620
  aristiflorum, *Mitt.* 620
  campylocarpum, C. Müll. 618
  canaliculatum, Hook. 606
  ciliatum, Hook. et Wils. 608
  commune, *Linn.* 621
  comosum, Schimp. 614

Page
Polytrichum
  conforme, *Mitt.* 621
  convolutum, Hook. 617
  cucullatum, Hampe 613
  dendroides, Hedw. 611
  elongatum, *Beauv.* 622
  ericoides, Hampe 611
  flexuosum, C. Müll. 609
  formosum, *Hedw.* 622
  Gardneri, C. Müll. 615
  giganteum, Hook. 609
  Jamesoni, Tayl. 613
  juniperiforme, *Schimp.* 621
  juniperinum, *Hedw.* 620
  Liebmannianum, Schimp. 615
  longisetum, Hook. 611
  magellanicum, Hedw. 608
  magellanicum, Linn. 608
  Molinæ, Mont. 606
  nigricans, Hook. et Wils. 606
  octangulare, C. Müll. 617
  oligodus, Kunze 613
  piliferum, *Schreb.* 620
  purpurascens, Hampe 616
  Riedelianum, Mont. 606
  rubescens, *Mitt.* 622
  semiangulatum, Pers. 609
  semipellucidum, Hampe 617
  squamosum, Hook. et Wils. 612
  subcontortum, Hampe 616
  trichodon, Hook. et Wils. 607
  varians, Hampe 619
Porotrichum, *Brid.* 458
  cæsium, *Mitt.* 467
  decompositum, *Brid.* 463
  denticulatum, *Mitt.* 462
  expansum, *Tayl.* 467
  explanatum, *Mitt.* 468
  fasciculatum, *Sw.* 468
  filiferum, *Mitt.* 468
  flagelliferum, *Hampe* 469
  gymnopodum, *Tayl.* 465
  humile, *Mitt.* 466
  insularum, *Mitt.* 464
  Korthalsianum, *Dozy et Molk.* 463
  lancifrons, *Hampe* 462
  leucocaulon, *C. Müll.* 463
  Lindigii, *Hampe* 461
  longirostrum, *Hook.* 461
  minus, *Hampe* 467
  minutum, *Mitt.* 465
  neckeræforme, *Hampe* 464
  nitidum, *Hampe* 460
  panduræfolium, *C. Müll.* 468
  piniforme, *Brid.* 465

Page

Porotrichum
- plicatulum, *Mitt.* 461
- rigidum, *Mitt.* 467
- scoposum, *Hampe* 460
- sparsiflorum, *Hampe* 465
- stolonaceum, *Hampe* 466
- *stolonaceum*, Hampe 460
- striatum, *Mitt.* 462
- substriatum, *Hampe* 463
- superbum, *Tayl.* 459
- Thieleanum, *C. Müll.* 465
- valdiviæ, *C. Müll.* 467
- variabile, *Hampe* 464

Potamium 472
- casiquiarense, *Spruce* 472
- commutatum, *C. Müll.* 472
- deceptivum, *Mitt.* 473
- lonchophyllum, *Mont.* 473
- pacimoniense, *Spruce* 474
- pulchellum, *Hook.* 472
- vulpinum, *Mont.* 473

Pottia
- *cavifolia*, Ehrh. 165
- *contermina*, C. Müll. 136
- *flaviseta*, Mont. 165
- *Heimii*, Fuernr. 165
- *involutifolia*, C. Müll. 136
- *macrocarpa*, Schimp. 166
- *mexicana*, Hampe 166
- *octoblepharum*, Spruce 140
- *Œrstediana*, C. Müll. 136
- *Pœppigiana*, C. Müll. 137
- *Wagneri*, C. Müll. 139

Prionodon, *C. Müll.* 417
- densus, *Sw.* 418
- dichotomus, *Hampe* 420
- divaricatus, *Mitt.* 420
- flagellaris, *Hampe* 419
- fusco-lutescens, *Hampe* 419
- læviusculus, *Mitt.* 419
- luteovirens, *Tayl.* 417
- lycopodioides, *Hampe* 418
- Muelleri, *Hampe* 421
- pinnatus, *Hampe* 417
- undulatus, *Mitt.* 420

Psilopilum, *Brid.* 606
- compressum, *Hook. et Wils.* 607
- trichodon, *Hook. et Wils.* 607

Pterobryum, *Hornsch.* 424
- angustifolium, *C. Müll.* 426
- brasiliense, *Hornsch.* 427
- cymbifolium, *Sulliv.* 426
- densum, *Hornsch.* 425
- duplicatum, *Schwægr.* 427
- filicinum, *Sw.* 425

Page

Pterobryum
- Pohlii, *Schwægr.* 426
- trichomanoides, *Spruce* 425

Pterogonium
- *Boryanum*, Mont. 469
- *densum*, Schwægr. 425
- *Jamesoni*, Tayl. 528
- *pulchellum*, Hook. 472
- *trichocladum*, Tayl. 510

Pterygophyllum, *Brid.* 397
- anomalum, *Schwægr.* 397
- *decompositum*, Brid. 463
- denticulatum, *Hook. et Wils.* 397
- obscurum, *Mont.* 398

Pterygynandrum
- *fulgens*, Hedw. 423
- *viscosum*, Beauv. 423

Ptychomitrium
- *serratum*, Schimp. 106

Ptychomnion, *Hook. et Wils.* 536
- aciculare, *Brid.* 536
- ptychocarpum, *Schwægr.* 536

Rhabdoweisia, *Bruch et Schimp.* 54
- cyathicarpa, *Mont.* 54
- Lindigiana, *Hampe* 54
- vulcanica, *C. Müll.* 55

Rhacomitrium
- *cucullatifolium*, Hampe 102
- *fasciculare*, Hook. f. 103
- *protensum*, Hook. f. 103

Rhacopileæ 17, 331

Rhacopilum, *Brid.* 332
- *anomalum*, Schwægr. 397
- intermedium, *Hampe* 333
- polythrincium, *Spruce* 332
- tomentosum, *Hedw.* 333

Rhamphidium 45
- macrostegium, *Sulliv.* 45

Rhegmatodon, *Brid.* 566
- schlotheimioides, *Spruce* 566

Rhizogonium, *Brid.* 326
- *æruginosum*, Hook. f. et Wils. 326
- Lindigii, *Hampe* 328
- mnioides, *Hook.* 327
- reticulatum, *Hook. f. et Wils.* 327
- spiniforme, *Linn.* 326
- subbasilare, *Hook.* 327

Rigodium
- *Lechleri*, Schimp. 557

Schistidium
- *subsessile*, Brid. 164

Schistomitrium
- *Gardnerianum*, C. Müll. 108

Page
Schistomitrium
obtusifolium, C. Müll. 108
Schizhymenium
nanum, Tayl. 321
Schlotheimia, *Brid.* 219
angustata, *Mitt.* 223
appressifolia, *Mitt.* 221
brachyrhyncha, Schwægr. 212
Chamissonis, *Hornsch.* 227
compacta, C. Müll. 228
cuspidifera, *Mitt.* 222
elata, *Mitt.* 225
emergens, *Mitt.* 222
fasciculata, *Mitt.* 221
furcata, *Mitt.* 222
fusco-viridis, *Hornsch.* 226
glauca, C. Müll. 228
gracilis, *Hornsch.* 228
immersa, *Mitt.* 221
Jamesoni, *Arn.* 224
julacea, *Hornsch.* 224
Kegeliana, *C. Müll.* 227
laxa, *Hornsch.* 227
longifolia, *Hornsch.* 226
Martiana, *Hornsch.* 224
Merkelii, Hornsch. 226
nitida, *Schwægr.* 223
oblonga, Tayl. 211
Œrstediana, *C. Müll.* 224
Ottonis, *Schwægr.* 223
Pabstiana, C. Müll. 224
patula, *Mitt.* 225
recurvifolia, *Hornsch.* 225
rugifolia, *Hook.* 226
rugifolia, Schwægr. 225
sinuata, *Hornsch.* 225
sphæropoma, *Duby* 227
Sprengelii, *Hornsch.* 222
tecta, *Hook. et Wils.* 220
torquata, *Hedw.* 223
trichomitria, *Schwægr.* 228
unguiculata, *Mitt.* 226
Sciaromium, *Mitt.* 571
conspissatum, *Mitt.* 572
crassinervatum, *Mitt.* 572
obscurifolium, *Mitt.* 572
Sclerodontium
pellucidum, Hook. 540
Seligeria
Kunzeana, C. Müll. 34
Sematophylleæ 20, 469
Sematophyllum, *Mitt.* 474
acistrostegium, *Sulliv.* 488
admistum, *Sulliv.* 485
affine, *Hornsch.* 483

Page
Sematophyllum
agnatum, *Hampe* 481
ambiguum, *Schwægr.* 492
amœnum, *Hedw.* 487
andinum, *Mitt.* 483
apiocarpum, *Mitt.* 493
arrectum, *Mitt.* 494
cæspitosum, *Sw.* 479
calidum, *Mont.* 489
chrysostegum, *C. Müll.* 485
circinale, *Hampe* 486
consanguineum, *Mitt.* 493
constrictum, *Mitt.* 480
crinitifolium, *Hampe* 484
cucullatifolium, *Hampe* 482
cuspidiferum, *Mitt.* 480
decumbens, *Wils.* 488
decurvifolium, *Mitt.* 495
erythropodium, *Mitt.* 489
flaccidifolium, *C. Müll.* 481
flavidum, *Mitt.* 482
fluviale, *Mitt.* 493
fragilirostrum, *Hampe* 485
fulvum, *Hornsch.* 482
galipense, *C. Müll.* 480
guianense, *Mitt.* 478
Hedwigii, *Wils.* 484
implanum, *Mitt.* 478
inconspicuum, *Hornsch.* 481
insulosum, *Sulliv.* 489
inundatum, *Mitt.* 494
Kegelianum, *C. Müll.* 486
lamprophyllum, *Mitt.* 496
leptochæton, *Schwægr.* 496
leptophyllum, *Mitt.* 488
leptothecium, *Mitt.* 482
liliputianum, *Mont.* 488
Lindigii, *Hampe* 487
longirostratum, *C. Müll.* 490
loxense, *Hook.* 479
macrorhynchum, *Hornsch.* 487
microcarpum, *Sw.* 493
microcladum, *Tayl.* 495
noduliferum, *Mitt.* 491
obliquerostratum, *C. Müll.* 490
Olfersii, *Hornsch.* 489
papillosum, *Hornsch.* 492
prominulum, *Mitt.* 491
pungens, *Sw.* 477
pusillum, *Hornsch.* 494
roridum, *Mitt.* 487
rubrisetum, *Mitt.* 492
Schlimii, *C. Müll.* 491
Schwaneckianum, *C. Müll.* 490
scorpiurus, *Mont.* 488

Page

- Sematophyllum
  - secundifolium, *C. Müll.* 481
  - sentosum, *Sulliv.* 493
  - sericifolium, *Mitt.* 483
  - stenocarpum, *Hampe* 478
  - subbrachycarpum, *Hampe* 484
  - subnervatum, *Mitt.* 483
  - subscabrum, *C. Müll.* 486
  - subsimplex, *Hedw.* 494
  - succedaneum, *Hook. f.* 484
  - tequendamense, *Hampe* 491
  - ulicinum, *Mitt.* 478
  - vincentinum, *Mitt.* 493
  - xylophilum, *Mitt.* 490
- Skitophylleæ 23, 580
- *Skitophyllum*
  - *Dillenii*, La Pyl. 584
  - *elegans*, La Pyl. 595
  - *longifolium*, La Pyl. 599
  - *palmatum*, La Pyl. 599
  - *polypodioides*, La Pyl. 586
  - *semicompletum*, La Pyl. 583
- Sorapilla, *Mitt.* 603
  - Sprucei, *Mitt.* 603
- Sphærothecium, *Hampe* 38
  - comosum, *Hampe* 38
- Sphagneæ 24, 623
- Sphagnum, *Linn.* 623
  - acutifolium, *Ehrh.* 625
  - andinum, *Hampe* 627
  - *clandestinum*, Beauv. 112
  - cymbifolium, *Ehrh.* 625
  - erythrocalyx, *Hampe* 627
  - fimbriatum, *Wils.* 624
  - limbatum, *Mitt.* 625
  - meridense, *C. Müll.* 626
  - mexicanum, *Mitt.* 624
  - negrense, *Mitt.* 624
  - perichætiale, *Hampe* 625
  - peruvianum, *Mitt.* 625
  - pulchricoma, *C. Müll.* 623
  - *squarrosum*, Hornsch. 624
  - subsecundum, *Nees* 624
  - trinitense, *C. Müll.* 626
- Splachneæ 16, 249
- *Splachnum*
  - *scabrisetum*, Hook 250
- Sporledera 25
  - Hampeana, *C. Müll.* 25
  - Lindigiana, *Hampe* 26
  - subenervis, *Hampe* 25
- Stereodon, *Brid.* 532
  - affinis, *Hook.* 533
  - aluminicola, *C. Müll.* 534
  - cupressiformis, *Linn.* 534

Page

- Stereodon
  - hamatus, *Mitt.* 533
  - Lechleri, *C. Müll.* 535
  - nitidus, *Hook. f.* 535
  - spiripes, *C. Müll.* 534
  - tunguraguanus, *Mitt.* 534
- Stereodonteæ 21, 497
- Stereophyllum, *Mitt.* 541
  - brevipes, *C. Müll.* 542
  - chlorophyllum, *Hornsch.* 544
  - contorteoperculatum, *C. Müll.* 543
  - cubense, *Mitt.* 544
  - cultelliforme, *Sulliv.* 544
  - leucostegum, *Brid.* 543
  - obtusum, *Mitt.* 542
  - papilliferum, *Mitt.* 544
  - peruvianum, *Mont.* 542
  - radiculosum, *Hook.* 542
  - ruderale, *Brid.* 543
  - seminerve, *Kunze* 542
- Streptopogon, *Wils.* 177
  - cavifolius, *Mitt.* 180
  - clavipes, *Spruce* 178
  - erythrodontus, *Tayl.* 178
  - latifolius, *Mitt.* 179
  - Lindigii, *Hampe* 178
  - mnioides, *Schwægr.* 179
  - setiferus, *Mitt.* 180
- Symblepharis, *Mont.* 48
  - Chrismari, *C. Müll.* 49
  - fragilis, *Mitt.* 49
  - helicophylla, *Mont.* 48
  - Lindigii, *Hamp.* 48
  - *Œrstediana*, C. Müll. 48
- Syrigothecium, *Mitt.* 497
  - Sprucei, *Mitt.* 497
- Syrrhopodon, *Schwægr.* 112
  - Berterianus, *Brid.* 122
  - circinatus, *Brid.* 122
  - crispatus, *Hampe* 124
  - cryptocarpus, *Dozy* 115
  - cryptodus, *Mitt.* 119
  - elatus, *Mont.* 124
  - elongatus, *Sulliv.* 120
  - fasciculatus, *Hook. et Grev.* 125
  - fimbriatus, *Mitt.* 122
  - flavescens, *C. Müll.* 119
  - *flavescens*, Hampe 116
  - flexifolius, *Mitt.* 118
  - fragilis, *Hampe* 121
  - Gaudichaudi, *Mont.* 116
  - helicophyllus, *Mitt.* 119
  - Hobsoni, *Grev.* 122
  - Hornschuchii, *Mart.* 116
  - *incompletus*, Schwægr. 123

Page
Syrrhopodon
inflexus, *Mitt.* 117
iridans, *Mitt.* 117
Jamesoni, Tayl. 163
Leprieurii, *Mont.* 120
ligulatus, *Mont.* 115
longisetaceus, C. Müll. 124
lycopodioides, *Sw.* 123
Miquelianus, *C. Müll.* 123
pallidus, *Mitt.* 121
papillosus, *C. Müll.* 118
parvulus, *Schimp.* 118
prolifer, *Schwægr.* 117
pusillus, *Mitt.* 120
recurvulus, *Mitt.* 120
rigidus, *Hook. et Grev.* 123
rubiginosus, *Mitt.* 125
rupestris, *Mitt.* 124
scaber, *Mitt.* 119
Schwaneckianus, *C. Müll.* 116
semicompletus, Schwægr. 123
sordidus, C. Müll. 122
Spruceanus, *Mitt.* 114
strigosus, *Brid.* 125
surinamensis, Dozy 123
sylvaticus, *Mitt.* 121
tenuifolius, *Sulliv.* 117
Urvilleanus, *C. Müll.* 124
venezuelanus, *Mitt.* 125
xanthophyllus, *Mitt.* 115
Syrrhopodonteæ 14, 112
Systegium
Lindigii, Hampe 131

Taxithelium, *Spruce* 496
planum, *Brid.* 496
Tayloria, *Hook.* 249
Jamesoni, *Tayl.* 249
laciniata, *Spruce* 249
limbata, Spruce 249
magellanica, *Schwægr.* 251
Moritziana, *C. Müll.* 250
scabriseta, *Hook.* 250
spathulata, *Wils.* 250
Thuidium, *Schimp.* 572
acuminatum, *Mitt.* 579
brasiliense, *Mitt.* 579
campanulatum, *Mitt.* 574
chilense, *Mitt.* 579
ciliatum, *Mitt.* 576
complanum, *Mitt.* 575
cylindraceum, *Mitt.* 574
delicatulum, *Hedw.* 578
eccremocarpum, *Mitt.* 577
exasperatum, *Mitt.* 576
filarium, *Mitt.* 579

Page
Thuidium
intermedium, *Mitt.* 573
involvens, *Hedw.* 575
leptocladum, *Tayl.* 573
mexicanum, *Mitt.* 577
minutulum, *Mitt.* 577
pauperum, *C. Müll.* 576
peruvianum, *Mitt.* 578
pseudo-protensum, *C. Müll.* 578
pusillum, *Mitt.* 577
raphidostegum, *Mitt.* 577
scabrosulum, *Mitt.* 574
Schiedeanum, *C. Müll.* 576
schistocalyx, *C. Müll.* 575
Thysanomitrium
Mülleri, Hampe 90
phascoides, Hampe 38
Richardi, Hampe 90
scabrisetum, Hampe 87
stenocarpum, Hampe 87
Tortula, *Hedw.* 142
aculeata, *Wils.* 173
acuminata, *Sw.* 167
ænea, *C. Müll.* 162
agraria, *Sw.* 167
amblyophylla, *Hook.* 155
andicola, *C. Müll.* 170
andina, *Sulliv.* 147
apiculata, *Hampe* 153
appressa, *Mitt.* 152
appressifolia, *Mitt.* 159
arcuata, *Mitt.* 163
atrovirens, *Sm.* 165
australasiæ, *Hook. et Grev.* 149
Berteroana, *Spreng.* 154
bogotensis, *Hampe* 171
brachydontia, *Bruch* 148
brachymenia, *Mitt.* 151
breviseta, *Mont.* 172
cæspitosa, *Schwægr.* 149
calceolifolia, *Spruce* 157
calycina, *Schwægr.* 157
calyculosa, *Mitt.* 156
campylocarpa, *Tayl.* 159
canaliculata, *Mitt.* 148
chilensis, *Mont.* 146
chimborazensis, *Mitt.* 163
contorta, *Hampe* 169
contortifolia, *Mitt.* 147
costata, *Mitt.* 159
crenata, *Mitt.* 169
Cruegeri, *Sond.* 150
cucullifera, *Mitt.* 155
decidua, *Hampe* 171
decolorans, *Hampe* 149
denticulata, *Wils.* 168

Page
Tortula
  elongata, *Wils.* 164
  erythrodonta, Tayl. 178
  excavata, *Mitt.* 154
  flagellaris, *Schimp.* 150
  flaviseta, *Mont.* 165
  fragilis, *Tayl.* 172
  fuegiana, *Mitt.* 174
  fusca, *C. Müll.* 160
  fuscinervia, *Mitt.* 154
  geniculata, *Mont.* 161
  glacialis, *Kunze* 173
  glaucescens, *Hampe* 152
  Goudotii, *Hampe* 171
  graminicolor, *C. Müll.* 160
  Heimii, *Fuernr.* 165
  humida, *Mitt.* 162
  inæqualifolia, *Tayl.* 153
  inundata, *Mitt.* 161
  jamaicensis, *Mitt.* 147
  Jamesoni, *Tayl.* 162
  Kunzeana, *C. Müll.* 169
  læta, *Kunze* 159
  lævigata, *Mitt.* 160
  leucocalyx, *Mont.* 153
  ligularis, *Mitt.* 156
  limbata, *Mitt.* 168
  linearis, *Swartz* 149
  longirostris, *Hampe* 157
  macrocarpa, *Schimp.* 166
  mendozensis, *Mitt.* 154
  mexicana, *Hampe* 166
  mniifolia, *Sulliv.* 167
  montana, *Mitt.* 156
  muralis, *Linn.* 166
  muricola, *C. Müll.* 166
  novogranatensis, *Hampe* 158
  obscura, *Sulliv.* 150
  obtusissima, *C. Müll.* 174
  occidentalis, *Mitt.* 155
  olivacea, *Besch.* 631
  papillosa, *Wils.* 174
  patagonica, *Mitt.* 156
  peruviana, *Mitt.* 169
  pichinchensis, *Tayl.* 174
  platyphylla, *Mitt.* 167
  princeps, *De Not.* 170
  prostrata, *Mont.* 172
  pruinosa, *Mitt.* 152
  punctulata, *Brid.* 175
  pusilla, *Hedw.* 165
  quitoensis, *Tayl.* 170
  rectifolia, *Tayl.* 158
  replicata, *Tayl.* 151
  rivalis, *Mitt.* 147
  robusta, *Hook. et Grev.* 175

Page
Tortula
  scabrinervis, *C. Müll.* 173
  Schlimii, *C. Müll.* 148
  serrulata, *Hook. et Grev.* 163
  spiralis, *Schimp.* 151
  stenocarpa, *Hampe* 162
  subnigra, *Mitt.* 164
  subsessilis, *Brid.* 164
  subulifolia, *Sulliv.* 161
  tenuirostris, *Hook. et Tayl.* 148
  teretiuscula, *Schimp.* 160
  Trianæ, *C. Müll.* 172
Tortuleæ 14, 129
Trematodon 45
  brachypus, *Mont.* 46
  brevirostris, *Hampe* 47
  humilis, *Mitt.* 47
  reflexus, *C. Müll.* 46
  squarrosus, *C. Müll.* 46
  vaginatus, *C. Müll.* 46
Trichostomum
  æneum, C. Müll. 162
  amblyophyllum, C. Müll. 168
  Berteroanum, C. Müll. 155
  brachydontium, Bruch 148
  campylocarpum, C. Müll. 163
  canaliculatum, Hampe 147
  crispipilum, Tayl. 104
  elongatum, Hook. f. 43
  mutabile, Bruch 148
  pallidum, Schwægr. 42
  Schimperi, Mont. 165
  Schlimii, C. Müll. 148
  sulfureum, C. Müll. 51
  ulocalyx, C. Müll. 51

Webera *v.* Bryum
Weisia 129
  agoyanensis, *Mitt.* 135
  arborea, *Mitt.* 138
  barbula, *Schwægr.* 136
  Berteroana, Spreng. 154
  blanda, *Hook.* 138
  Breutelii, *C. Müll.* 132
  calcarea, *Nees* 134
  campylocarpa, Hook. et Arn. 322
  cataractæ, *Mitt.* 135
  contermina, *C. Müll.* 136
  controversa, *Hedw.* 133
  crispula, Wils. 63
  cryptodon, Mont. 63
  cucullata, *Hampe* 140
  edentula, Sulliv. 133
  exigua, Schwægr. 30
  Hampei, *Mitt.* 131
  incurva, *Mitt.* 138

Page

Weisia
- involutifolia, *C. Müll.* 136
- Jamesoni, *Arn.* 132
- Kunzeana, *C. Müll.* 132
- Leprieurii, *Mont.* 137
- *Lindigiana*, Hampe 54
- Lindigii, *Hampe* 137
- longirostris, *Kunze* 134
- lurida, *Hornsch.* 137
- melanostoma, *Mitt.* 138
- micacea, *Schlecht.* 131
- minutissima, *Mitt.* 138
- navicularis, *Mitt.* 139
- obtusifolia, *C. Müll.* 139
- octoblepharis, *Spruce* 140
- Œrstediana, *C. Müll.* 136
- *Pabstiana*, C. Müll. 133
- *pallida*, Spruce 133
- Pœppigiana, *C. Müll.* 137
- splachnifolia, *Hook.* 141
- stenocarpa, *C. Müll.* 132
- stillicidiorum, *Mitt.* 134
- subacaulis, *Mitt.* 131
- subcæspitosa, *Hampe* 140
- tortula, *Schwægr.* 135
- umbrosa, *Mitt.* 133
- *vulcanica*, C. Müll. 55
- Wagneri, *C. Müll.* 139

Zygodon, *Hook. et Tayl.* 229
- andinus, *Mitt.* 236

Page

Zygodon
- angustatus, *Schimp.* 233
- brevicollis, *Mitt.* 234
- campylophyllus, *C. Müll.* 236
- crenulatus, *Mitt.* 238
- cylindricus, *Schimp.* 235
- denticulatus, *Tayl.* 232
- Ehrenbergii, *C. Müll.* 234
- fasciculatus, *Mitt.* 231
- Goudotii, *Hampe* 233
- hamatus, *Mitt.* 233
- Liebmanni, *Schimp.* 230
- linearifolius, *Mitt.* 235
- linguæformis, *Hampe* 232
- Menziesii, *Arn.* 231
- Moritzianus, *C. Müll.* 236
- nivalis, *Hampe* 235
- ovalis, *Mitt.* 235
- papillatus, *Mont.* 233
- *papillatus*, Mitt. 236
- pentastichus, *Mont.* 238
- peruvianus, *Sulliv.* 233
- pichinchensis, *Tayl.* 237
- quitensis, *Mitt.* 238
- setulosus, *Mitt.* 237
- sordidus, *C. Müll.* 230
- squarrosus, *Tayl.* 237
- stenocarpus, *Tayl.* 234
- subdenticulatus, *Hampe* 232
- uncinatus, *Mitt.* 234
- ventricosus, *C. Müll.* 231

THE END.

PRINTED BY TAYLOR AND FRANCIS, RED LION COURT, FLEET STREET.